

JUL 9 1937

CLINICAL MEDICINE AND SURGERY



VOLUME 44

July, 1937

NUMBER 7

• LEADING ARTICLES •

| | PAGE |
|------------------------------|------|
| Ambroise Pare - | 283 |
| Psychoallergy - | 288 |
| Physiologic Rest - | 292 |
| Diverticulitis - | 294 |
| Treatment of Ivy Poisoning - | 297 |
| "Black Widow" Spider - | 298 |
| Internal Iontophoresis - | 302 |
| Successful Physician - | 308 |
| Editorials - | 279 |

• COMPLETE TABLE OF CONTENTS ON ADVERTISING PAGE FOUR •



RELIEVES THE PAIN OF BURNS

Butesin Picrate Ointment with Metaphen provides a complete local treatment *always ready for use* on burns of any kind and degree—steam, electrical, hot metal, sunburn, or scalds. With it time need not be lost with sprays, wet dressings or elaborate preparations.

Combining the powerful anesthetic and analgesic properties of butesin with the antiseptic qualities of picric acid augmented by Metaphen, Butesin Picrate Ointment with Metaphen quickly brings about the disappearance of intense pain. (Even in very severe burns, relief usually follows within fifteen to twenty minutes.)

The preparation fixes and protects denuded

areas against infection from without and combats any existing infection. No hard crust is formed over the burn and epithelization after granulation is encouraged.

Because of these advantages, Butesin Picrate Ointment with Metaphen has many other practical uses—for application to ulcers, lacerations, hemorrhoids and other injuries for which an analgesic, antiseptic ointment is indicated.

Butesin Picrate Ointment with Metaphen is supplied by pharmacies in 1-ounce and 2-ounce collapsible tubes, and in 16-ounce and 5-pound jars. Comprehensive literature and a clinical sample sent upon request. Use the coupon.

BUTESIN PICRATE OINTMENT with Metaphen

ABBOTT LABORATORIES, North Chicago, Illinois

F-7-37

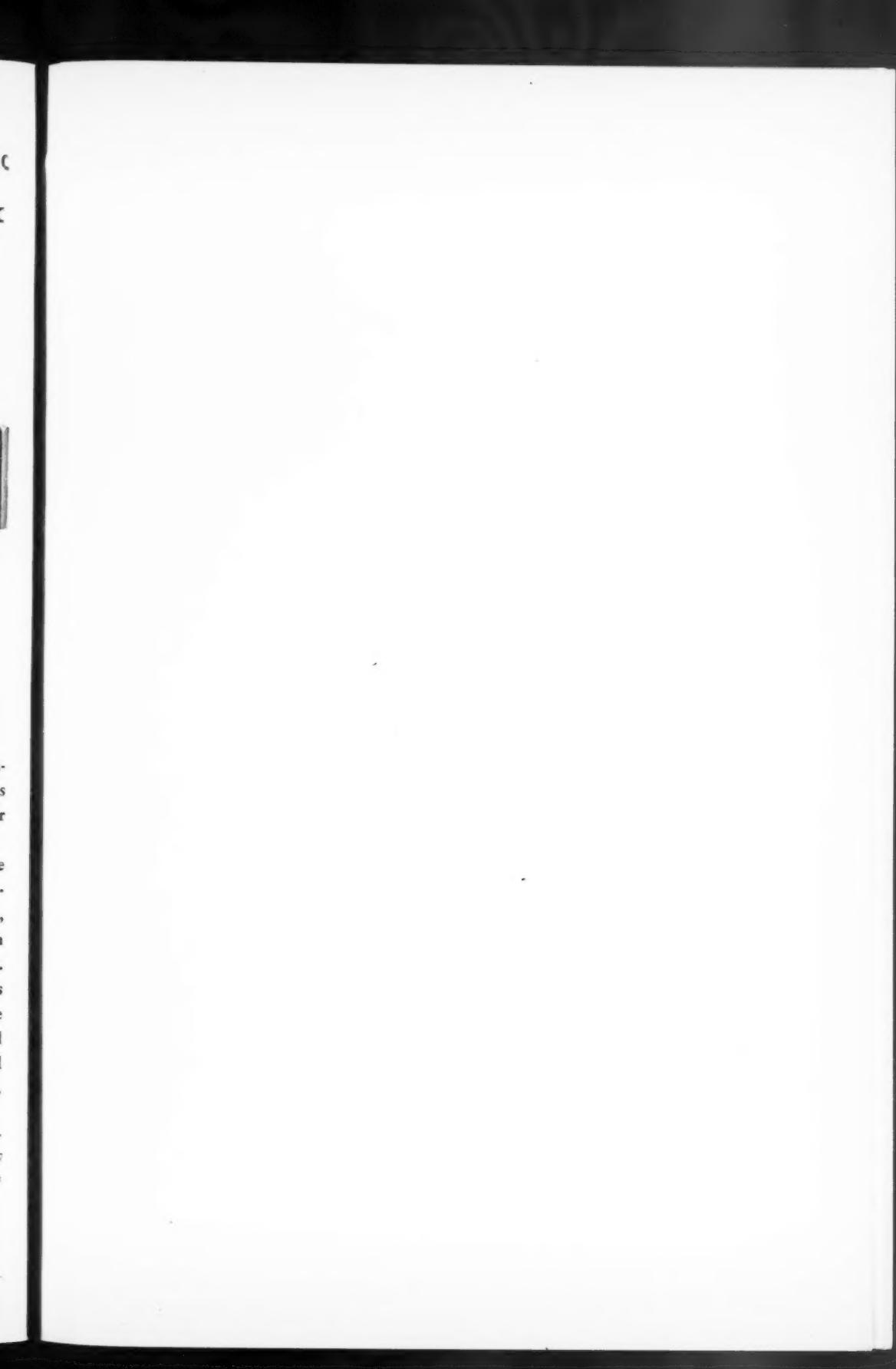
Please send me literature and free trial sample of Butesin Picrate Ointment with Metaphen.

M.D.

Address _____

City _____

State _____





(Courtesy of Dr. Victor Robinson, author of "Pathfinders in Medicine.")

AMBROISE PARÉ*

*See Special Article on page 283.

CLINICAL MEDICINE AND SURGERY

GEORGE B. LAKE, M.D.

• Editor •

EDITORIAL STAFF

Dr. W. A. NEWMAN DORLAND
Dr. J. E. G. WADDINGTON

Dr. HENRY SCHMITZ
Dr. H. J. ACHARD
Dr. RUSSELL A. WINTERS

Dr. FRANK T. WOODBURY
Dr. M. J. HUBENY

VOLUME 44

JULY, 1937

NUMBER 7

EDITORIAL

The Doctor Has Health for Sale

IN years gone by the doctor was almost as impressive a signpost of pain, disease and death as was the undertaker. People dreaded to see him come into their homes and dreaded to go to his office and, as soon as the acute ache or illness of the moment was relieved, were glad to see him go and to forget him and their need for his services. Too much of these conditions remains today.

No man enjoys remembering unpleasant things. He instinctively (and very properly) turns his mind to the contemplation of stimulating and joyous experiences. Is it strange that he should tend to forget the doctor while he is trying to forget the suffering of his recent illness?

The advertising man (we do not mean the "quack" who lauds his own skill in the public prints, but the man who is engaged in the profession of advertising) knows that if you have something to sell you must make people want it before they will buy. It is his business to find out what are the most appealing features of the products his clients have for sale and then make those so attractive that people will stand in line awaiting their turns.

Sickness and death have no particular popular appeal. One does not apply to the undertaker ("mortician" seems to be a more popular word just now) until his services are absolutely required; and no amount of salesmanship would render a bargain-sale of coffins at all widely popular. Some doctors

enjoy about the same type of popularity as the gentlemen to whom we have just alluded.

The laws of medical ethics forbid a physician to advertise his personal skill or knowledge in the newspapers and magazines, but we can see no harm in impersonal advertising for educational purposes, as well as for selling purposes.

Let us look over the doctor's stock and see what he had best present to his "customers."

His first commodity (that is, the one that most people will think of first) is professional knowledge and skill for the alleviation of pain and illness and for the postponement of death. Medical ethics, however, forbids him to exploit these to prospective patients; and even if this were not true, popular imagination turns with distaste or even loathing from the thought of pain, illness, and death.

He has, also, a knowledge of hygiene and sanitation and all the various measures by which a man or a community can *keep well*. Now here is something that interests everyone. Health is mankind's most prized possession, for without it all the other pleasures of life lose their zest and flavor.

While physicians differ in the extent of their knowledge of these matters and in their ability to apply that knowledge, they all have it to a considerable extent and can add to and develop it readily.

The only way we can treat disease in its

incipiency, or even before it starts, is by examining our patients at periodic intervals, and making a *real job* of such examinations. The only way we can convince them of the necessity of such examinations is by educating them concerning the supreme value of health and the possibility of maintaining it by a proper hygienic life and a reasonable (not a morbid or pathologic) interest in the condition of their bodies.

If your stock of knowledge and technic in the lines of general hygiene and physical diagnosis is low or out of date, get in some new goods so as to be ready for business, and then advertise the fact that you have *health for sale*.

If you use paid publicity, it must be impersonal and should be a cooperative proposition. The County Medical Society could properly run ads in the local papers calling attention to the priceless commodity which *all* the physicians in the county have for sale. No name should be signed to this—or the name of *every* member of the society should appear. It might be well to state casually that this is no money-making scheme, for, the more people buy this health service the less work will the doctors have in caring for the sick.

Equip yourself to make this a real and valuable service and charge fees in proportion to its value and your effort. People *ought* to be more willing to pay for being *kept* well than for being *made* well. Their condition of health would be a pleasant thing to remember.

This may sound academic and visionary, but the time is coming—and it is not so far away, we believe—when this educational health service will be the most important part of the work of physicians.

Be prepared; be happy and look so; forget disease as much as you can and encourage your patients to do the same. Have health for sale and boost it as a good salesman should. So shall your days be long in the land and, verily, you shall prosper.

●

The expectations of life depend upon diligence. The mechanic who would perfect his work must first sharpen his tools.—CONFUCIUS.

●

Study

WE sometimes hear a doctor say, "I don't have time to read medical journals and textbooks"; and, when we hear a thing like that, we offer up a little prayer for the poor fellow, that the time may not shortly arrive when he will find himself with more time on

his hands than is entirely consistent with earning a living.

We also, sometimes, hear a man making sorry-for-himself noises about how the "damn-fool specialists" in the cities get more in one fee than he is able to earn in a whole year.

If you go out to buy any commodity, you expect to get your money's worth—you do not intend to take less, and you are foolish if you think you can get more. The only imaginable reason why people are willing to pay more money for a Packard than they would for a Ford is because the Packard is a better car.

Medical service is as much a commodity as coal or coffee, and there are many more different grades in that commodity than there are in the things we eat and wear. If you are offering the public a high-grade product you can ask, and receive, a higher price for it than they would be willing to pay for an inferior article.

You will notice that the word "product" was used in the last sentence, and it wasn't a slip of the pen, either. Medical service is as truly a product of labor as are threshing-machines or wheat. We all labored hard, for years, in order to obtain sufficient knowledge to secure a diploma and a license to practice. If we stopped there, the machine we worked so hard to build has been deteriorating rapidly ever since; and the crop we sowed, with such diligence is fast becoming choked with weeds.

Who are the men who do the largest amount of professional reading? Is it the men who see five or six patients a day and feel lucky if they collect a couple of thousand dollars in a year? If such a man spends all his leisure time in sincere study, instead of in playing golf, reading the comic supplements, and crying because he "never had a chance," he will not long remain in the \$2000 class.

A poor boy from Switzerland landed in this country, one day, and began shining shoes and selling papers for a living. He died a number of years ago, with an international reputation and an income of over \$100,000 a year. His name was Nicholas Senn.

No, the big readers and the hard students are the ones who are seeing thirty, forty or fifty patients a day and figuring their incomes in five or six figures. If they didn't keep up the study they couldn't keep up the income. "You can't fool all the people all the time."

Here is the answer. If a young physician will start his library with five standard textbooks and one good medical journal, and *thoroughly digest* the contents of these books and that journal, he will soon be in a position to buy as many more as he needs; and if a man in practice does *not* digest the contents of at least two or three textbooks and at least one good journal every year, he will soon be down to the bed rock of the class of practice which comes because he's the only doctor in town or his fees are the smallest.

Study hard. Study *every day*. Fill all the minutes you now *waste* (and that *doesn't* mean the time you spend in enjoyable and needed recreation) with earnest and thoughtful study, and you will soon find yourself able to render the class of service for which people will pay well; and opportunities will come hunting for you.

The educated person is one who each day learns something new, and who thinks on something when he is not in school.—DR. DONALD A. LAIRD.

Medical Societies

Of course, we all belong to our County and State Medical Societies, and to the American Medical Association. These are things which are expected of every active and ethical physician. Does the question ever arise in any of our minds whether we are getting our money's worth for what we spend in dues in these various societies?

If we are not getting anything, or very little, out of our medical societies, the reason is not far to seek: it is because we are putting nothing into them. You can't get anything out of a jug (or a medical society) that hasn't first been put into it.

Sit down quietly for a few minutes and ask yourself some questions; and answer them honestly.

What kind of a County Society would we have if every member made exactly as much effort as I make to see that its meetings are a success?

How successful would the meetings of the State Society and the A.M.A. be if every member attended them as regularly as I do, and contributed as freely to the discussions as I contribute?

How much fraternal spirit and coordinate effort would there be in the profession if every member of it were as friendly and helpful and as good a cooperator as I am?

If you say to yourself that you are never asked to read a paper before any of the societies, do you ever stop to wonder why that is? There is a reason for everything that occurs in this world. Let's look for this one.

The officers of the County Society are desirous of preparing programs which will interest the members. They go earnestly over their lists to find those who *have something to say*. The man whose profession is nothing more than a means for earning his daily bread rarely has any overflow of energy to give his confreres. Your county secretary is looking for the fellows who bubble over with an enthusiasm which is contagious; the men who study, who keep records of their cases, and who take an active part in the discussion of the papers which other doctors present. You cannot "hide a candle under a bushel," nor can an enthusiastic and well-informed man remain in obscurity in any professional gathering.

Here is the formula for getting abundant returns on your society memberships:

First, you must be not merely contented with your profession, but you must take an active pride and joy in it.

Keep posted on the new developments along the lines in which you are especially interested. Get a medical hobby and *ride it hard*, being prepared to accept the falls which your confreres will take out of you, and keeping yourself "loaded" to answer their questions and arguments.

When you receive the program of the next county meeting, look over the subjects which are to be presented and then get down your textbooks and read them up so that you will be prepared to discuss them intelligently.

If you do this regularly, it will add greatly to the interest of the meetings, and points will be brought out which will be vastly helpful to you; moreover, you will soon gain the reputation of being a well-posted man and will be asked to present papers before the society.

When you have a paper to prepare, do it *thoroughly*. Go over your cases for material which will illustrate the points you want to bring out; consult the textbooks; go over your paper with the A.M.A. "Style Book" and get it into sound and attractive literary form; if your reference library is not so extensive as you could wish, here is a place where we can help you. We have a large reference library, and will be glad to look

up matters for you and give you a list of articles on your subject.

After you have given the society a paper which is up to the minute and full of practical information, publish it. Here is another place where we can help you. We are eagerly looking for snappy, readable, usable articles for **CLINICAL MEDICINE AND SURGERY**.

If, after all your efforts, the literary form and style of your article are not all you could desire, but it contains valuable ideas, we will dress it up for you, within reason.

The only ethical way in which a physician can advertise is by writing articles for the medical journals. If your published communications are original and well presented, the authorities of the State Society will eventually find you out and your field of usefulness will become enlarged.

Follow out these ideas, consistently and regularly, year after year, and you will find that there are no limits to your progress except those you set for yourself.

Remember, you have to put something into a bottle (or a society meeting) before you can take anything out; and the more you put in, the more you can take out. Remember, also, that if you have more stuff than your present bottle will hold, you are sure to be provided with a larger bottle.

•
What a man can do with the aid of his friends is within his power.—*LETTER OF A MASTER.*
•

Prevention of Measles

MEASLES is by no means the harmless disease it is believed to be by most lay-

men, and even by some physicians. Deaths from the direct effect of the disease and from its complications make a formidable list. Its prevention is, therefore, an important part of the duty of medical men.

Hitherto this prophylaxis has been achieved by the intramuscular injection, after exposure and before the development of symptoms, of the pooled blood serum of immune adults (or whole blood from an immune person), or of the serum of a patient convalescing from measles. These measures have given very encouraging results in the prevention or modification of the disease, but the serums or blood are by no means always or universally available, rather large doses are required, and this type of treatment is apt to be decidedly expensive.

The same, or even better, results can now be obtained from intramuscular injections of highly concentrated and refined globulin preparations, extracted from the placentas of Wassermann-negative parturient women.

These immune globulins, or measles antibody preparations, are always immediately available, in sterile containers, ready for direct injections by the simplest methods. The doses are relatively small (2 to 10 cc.) and decidedly less expensive than the means of prophylaxis hitherto in vogue. Prevention or modification of the disease is secured in about 95 percent of the cases treated.

Every active clinician should be familiar with this modern prophylactic method, and we shall be glad to put any who are not so in touch with reliable sources of information.

NEXT MONTH

Dr. Theodore Kaplan, of New York City, will explain, in detail, the early diagnosis and treatment of peripheral occlusive vascular disease (intermittent claudication, Raynaud's disease, etc.).

Dr. Abraham Cohen, of Philadelphia, will present the results of the treatment of 125 cases of arthritis with calcium ortho-iodoxybenzoate.

Dr. Edwin W. Hirsch, of Chicago, will suggest measures for the prevention of the prostatic disorders which are so prevalent.

COMING SOON

"Headaches Caused by Traumatic Nasal Deformities," by F. A. Wier, M.D., Racine, Wis.

"Dynamic Ileus (Report of Four Cases)," by E. J. Melville, M.D., St. Petersburg, Fla.

SPECIAL ARTICLE

Ambroise Paré

"Surgeon of Princes and Prince of Surgeons"

By Francis Dickie, Heriot Bay, British Columbia, Can.

THOUGH he was the son of a cabinet maker who was very poor, and though he had very little early education, Ambroise Paré rose rapidly from being a barber's apprentice to become the first surgeon of France. Faced with a sudden emergency upon a battlefield, he performed a surgical operation hitherto unknown to the profession in Europe, by tying the arteries after amputating a leg. Previous to this time amputations had been cauterized by touching them with a red-hot iron, or pouring in boiling oil, the shock of the pain of which, added to the suffering of the amputation, often caused the patients' death. By his discovery of tying the arteries, Paré saved thousands of lives in the future, and relieved mankind from the awful agonies of the boiling oil and red-hot iron treatment.

Among several million books in the Bibliothèque Nationale, in Paris, are stored a score of mighty volumes relating to Paré. Many of them, and the most important guides to his life history, are handwritten in old French. From weeks of searching through these, a large and varied collection of incidents and anecdotes about Ambroise Paré's long and very active life has been gathered. It is difficult to make a selection from so much intensely interesting material. While one does this one is moved to enthusiastic admiration of the French, that these rare records, four centuries old, should have been preserved so perfectly as to make possible

today our gaining a vivid picture of the man and his time.

After much search, and then by lucky chance only, I also found, among some battered prints, a rare old one made from a woodcut in Paré's time. This showed a barber shop of his day, and the men at work. From this, the accompanying photograph (Fig. 1) has been made. Here we see, much as it actually must have appeared, the interior of a shop where barbers and surgeons of the time served their apprenticeship.

There is no record of Paré's birth. In his writings he admits that he is not sure, within a year or two, of his age. But he probably was born about 1509. At that time the barbers and surgeons were

not considered by the medical men as belonging to the profession. Though the barber-surgeons did much to aid suffering humanity, they were looked down upon by their brothers of the long prescriptions in Latin.

Life of a Barber-Surgeon's Apprentice

The future master barbers and the surgeons all served their apprenticeships together. About half past five in the morning an apprentice came to work. After sweeping out the shop, he was ready to serve any of the early-going workers who wanted their beards trimmed before starting their day. The apprentices were always on hand, even at this early hour, as they received a small tip when a customer was satisfied. Later in



Fig. 1.—Shop of a Barber-Surgeon, Paris, about 1530. (Made from a photograph of a rare woodcut discovered by the author).



Fig. 2.—The Hotel Dieu, oldest hospital in the world (founded in 660 A.D.). The entrance shown here is much as it was in Paré's time. The insert is a portrait of Paré.

the morning—about nine o'clock—and until two in the afternoon, an apprentice visited from house to house, trimming beards or combing wigs, as required. This was not generally by appointment. He simply made his call in the same manner as the butcher and baker. If not needed he went on to the next house. So, according to one old record, an apprentice made as high as fifty calls on his daily rounds. Returning to the shop about two o'clock he assisted his master in performing small operations; also in dressing wounds and small tumors, which were not operated upon.

When not otherwise occupied, the apprentice worked at making tools, which, with the exception of the razor, were not much superior to those of the blacksmith. Evening was the only time left in which to study. After the long day it is not to be wondered at that most of the boys were too weary to spend further time learning anatomy and kindred subjects. For this reason, surgery progressed very slowly, and many more barbers than surgeons were graduated from the shops.

Certainly, few masters in other walks of life demanded so much from their servants as the barber-surgeons expected of their pupils. They were supposed to give the boys one afternoon a week of leisure, and another afternoon free so that they might attend the free lectures given by the physicians of the Paris Faculty of Medicine, but in most cases

these rules were ignored. The boys missed many lectures because they were kept engaged cutting hair, trimming beards, and combing wigs. Finally the situation was such that the physicians, out of a spirit of duty, though unable to force the master barber-surgeons to comply with what was not actually a law, undertook to get up early and give lectures from four o'clock in the morning until five. In this way the boys were able to get an hour's study before starting work in the shop. There is little doubt that such a regime left no happy memories to these boys, nor sentiments of gratitude to their masters. It is really amazing that any of them became surgeons.

Such was the life that Ambroise Paré took up when he came to Paris from the town of Laval, in the district of the Loire. At home he had spent a very short time at the village school. Then he had been sent to live with a vicar in a neighboring town, in order that he might learn Latin. But his father was so poor that the money he paid the vicar did not satisfy him, and he kept the boy mostly at work in the garden and the stable. So, after a short time, Ambroise returned home, and was apprenticed to a barber in Laval. After a year of this, when still at the astonishingly early age of 14, he set out for Paris and entered as an apprentice to a barber-surgeon there.

The Hotel Dieu
In spite of the long hours of work and the

difficulty in the way of attending lectures, Ambroise had such a strong constitution and such a bent for study that, after four years, he succeeded in getting a place on the staff at the *Hotel Dieu* (Fig. 2), which was the oldest hospital in France (founded in 660 A.D.) and one of the oldest in the world. It was founded by Saint Landry, bishop of Paris. Louis IX, called Saint, enlarged it in 1227. The hospital has been added to and changed in many ways during the passing centuries, but many of its features, especially the central court and galleries, have been little changed in the past 250 years. It was directed by an order of men and women who devoted their lives to nursing the sick poor. In 1363 the staff consisted of 30 brothers and 25 sisters, under the authority of the chapter of Notre Dame. The number of people eager for such a life was not large, and through the following centuries it was always difficult to keep this number up.

There was no more sad or more sinister place than the *Hotel Dieu*, in the days when Ambroise Paré began his labors there. Yet though this was an important time of his life, in his later writings he makes only the briefest mention of it, and then only to tell of a few details. To this hospital came diseased people from all over the kingdom. A constant stream of them poured in from six in the morning until six at night. So great were the demands of the sick upon the understaffed hospital, that only adults were attended to. It strikes us today as a strange fact that newborn babies were left to die without care, and in many cases the mothers also.

Every day, while there, Paré faced this accumulated distress. He worked long hours. In his quaint writing of the time he tells of how cold it was in winter. The hospital was heated by an unbelievably crude method. A "chariot" carrying live coals was drawn slowly through the different long rooms. Yet, in spite of this, he relates that, during a winter of exceptionally severe weather, the sacred wine froze in the containers, and several patients had their noses frozen. Paré amputated some of these. "Some survived the operation, but two died," he recounts with delightful frankness. He remained always the most modest of men. His favorite saying is an example of this: "I operated upon them, and God cured them."

Neither from Paré, nor from any of the chronicles of the time, do we learn very much about the activities of the medico-surgical service in the *Hotel Dieu*, except that the apprentices attended to the dressings. We do know that the apprentice barbers were more numerous than the apprentice surgeons.

The Army Surgeon

Toward the end of the third year of his labors in the hospital, Paré joined the army of King Henri II. War was being carried on against Spain. Fire arms had just been invented, and gunshot wounds were appearing on the field of battle for the first time, presenting a new and difficult problem to the surgeons. The wounds so caused were considered as something quite diabolic. We find in the writings of various surgeons of the day such remarks as: "They are venomous, and we must kill the venom. They are poison, and we must kill the poison." To achieve this they used the most drastic treatments. The wounds were cauterized with boiling oil or by applying red-hot irons. Naturally, only the most robust of the wounded, already suffering greatly, could stand this added agony.

At the siege of Metz, Paré found himself with a great number of wounded men, in a critical condition, on his hands, with such a shortage of boiling oil that only a few could be treated. At this time he was still following blindly the practises of his senior surgeons.

The thought of these wounded men, most of whom he believed would die because of the lack of oil to treat them, worried Paré greatly so that he suffered sleepless nights. He visited the wounded constantly and, upon the fourth night, noted, to his amazement, that those wounds which had not been treated with boiling oil were healing splendidly. On the other hand, the soldiers who had been treated in the regular way were writhing in agony and their wounds showed little signs of improvement. A great truth was thus revealed to the young surgeon. While he did not, for some time, find any alternative and better treatment, he resolved never again to burn gunshot wounds, but instead trusted to nature to do the healing. He naturally met with much opposition from his older brothers of the profession, until he had thoroughly demonstrated the truth of his findings.

A short time afterwards, while in Turin, Paré made the acquaintance of a surgeon who had a salve which he claimed was most efficient in healing wounds caused by guns. Paré cultivated his friendship, hoping to obtain the formula. He finally did so, but the man demanded a promise that this be kept a secret and sold for large profit. Paré, true scientist that he was, decided that such a thing, which he believed would greatly help humanity, should be revealed to all. So he writes at the time, very quaintly: "I have promised with my word, but not my will, for such secrets must not be buried underground."

Unfortunately, this salve, known as "Puppy



Fig. 3.—Paré performing the first operation in the history of medicine where the arteries were tied. (From a photograph of an old painting.)

Dog," did not prove up to expectations. However, while still at Turin, and close upon his disappointment with the salve, Paré met an old woman, famed in the region for her ability as a curer of various ills. From her he got a suggestion to try raw onions on wounds, which proved fairly effective.

At the battle of Damvilliers, the Duke de Rohan, Lord of Brittany, was wounded in the leg by a cannon shot. Paré was convinced the only way to save his life was to amputate the limb, but the Duke was in such a weakened condition that the surgeon felt that the application of a red-hot iron to cauterize the parts would prove fatal. It was then that there dawned upon him the idea of ligating the bloodvessels with a double thread (Fig. 3). The Duke was thus saved the shock of the burning irons, and fully recovered.

This discovery was the most momentous in the history of surgery until that time. It started military surgery on the pathway from horrible torture, and a heavy mortality rate from operations, to a higher art, less painful, and more saving of life. This won for Paré the name, "Father of Modern Surgery." This step forward in surgical practice was so immense that the tying of the ligatures as practiced by Paré, was little improved upon until the time of Lister, three and a half centuries later.

Upon Paré's return to Paris, the King was so pleased with his work (for he had personally seen the surgeon extract eighteen shells from wounds, without the loss of a

patient) that he made him his own assistant surgeon.

In 1538, after much varied experience, Paré attempted successfully another innovation in operations. He broke the joint of a crippled elbow and reset it, so that the arm again assumed a normal appearance.

After serving for a time with the armies of Marshall Monte-Jan, he returned to Paris in 1539, to marry the daughter of the Wax-Heater of the Chancellery. He then opened up a shop as a barber-surgeon, near the Place St. Michel. But when the Lord of Brittany went to war again, Paré once more joined the army.

During this campaign, the Marshall of Brissac was shot near the shoulder blades. As he lay upon his bed, Paré found it impossible to locate the bullet. He then conceived the original idea of having the Marshall held up in the position he was when wounded. In this manner the shot was revealed by a slight bulge—at least this is how the operation is related in one of the old chronicles.

Shortly after this, Paré first met Sylvius, one of the most noted surgeons of the day, and freely gave him the benefit of all his experiments.

In spite of all the good work Paré did, he was bitterly opposed, for many years, by the Faculty of Medicine in Paris, which heaped insults upon him and tried to prevent the publication of his books. His origin as a barber, who knew nothing of Latin, was argued as grounds against his books being of worth. This is all rather amusing, for Paré was getting results, while the Medical brotherhood, who dealt only in medicine, were, for the most part very incapable men.

But Paré was welcomed by the College of St. Côme. This school of medicine revolutionized the medical world by teaching anatomy, which until then had been claimed as the exclusive privilege of the Faculty of Medicine. To combat the College of St. Côme, the Faculty, which was very powerful, had an edict passed by which the Commissioner of Police, The Hotel Dieu, and the public executioner (the three great sources for bodies), were forbidden to deliver any to St. Côme without special permission from the Faculty of Medicine. Surgeons and barbers were also forbidden to do any dissecting of the human body without the presence of a doctor. Paré, however, carried on his work in secret, in spite of all opposition.

From one of the early commentaries, we learn that Paré made a collection of 300 volumes dealing with the art of the barber-surgeons. This, unfortunately, became dispersed. His collection of rare specimens, particularly in connection with gynecology, is also mentioned as being one of the sci-

tific wonders of his day. From these, and his studies of the subject, he wrote a book about human monsters (teratology).

Between times of carrying on various experiments, running a barber-surgeon's shop, operating upon poor and rich, attending the reigning king, and writing books, Paré was hurrying off with some army to one of the various wars that were almost a habit in those days.

At the siege of Boulogne, the Duke de Guise was terribly wounded in the face, near the eye, by the point of a spear, a piece of which was left in the wound. All the leading surgeons held a conference, but no hope was held out for his recovery. As a last resource, some member of the Duke's household suddenly thought of Paré, whose fame was growing. He was summoned. He asked the Duke if he thought he could stand having a surgeon's foot on his face to give him leverage. Then he sent for the blacksmith's tongs, which he used with so much skill that the eye of the patient was not injured in removing the piece of spear. After many days the Duke recovered. He was known from that time on as François "The Scarred."

In 1552 the city of Metz was being besieged by Charles Quint. It was defended by the now-fully-recovered Duke de Guise. Though the siege was imposing great hardships upon the defenders, the Duke sent word to the King that he could hold out for at least another ten months, but that medical supplies must be sent into the city through the enemy's lines. The King assigned Paré to the task; and, with two companions, he successfully slipped through the lines with a large quantity of supplies. Of this dangerous adventure, Paré merely writes: "The expedition was full of perils, and I should have much preferred remaining in Paris."

His success in this event led him, a few months later, to being sent on an even more desperate errand. Hesdin, in Picardy, was being besieged, and the defenders sent an urgent message to the King imploring medical aid. Again Paré ran the gauntlet of the enemy and, under cover of a night of dreadful storm, succeeded in getting through. Here he found the situation truly hopeless. There were not sufficient beds for the wounded; the food supply was almost gone; and what little medical supplies he had succeeded in bringing in were utterly inadequate to meet the needs. When consulted by the commander as to the advisability of surrendering, Paré stated frankly that he thought it was the best thing to do. At the

time, the commander, M. de Martigue, was severely wounded.

The place was surrendered to the Duke of Savoy, who was very eager to save the life of his distinguished prisoner—for in those days prisoners of rank were valuable, either to exchange for persons of equal rank taken by the enemy, or to receive ransom for their return. Paré was assigned to the case, and pulled the wounded man through. Largely due to this, Paré shortly after gained his freedom.

"Surgeon of Princes"

Two years later, Paré was back in Paris and a great favorite at court. Yet, despite his ever growing fame, his epoch-making discovery of the tying of the arteries, and his many successful operations of an unusual nature, he still was without a "Master's Degree." This was largely technical, due to the fact that he did not know Latin, and the ruling was that no one could hold a Master's Degree without going through the ceremony in Latin. However, the College of St. Côme, which had always been friendly toward Paré, decided that he should be admitted. In order to do this, he was coached in Latin, learning by heart just those words necessary for his address, which was prepared several weeks in advance of the ceremony. As an exceptional mark of the respect in which he was held by his fellow surgeons, Paré was received *free*, though the rules called for a large admission fee. On the 18th of August, 1554, he was received; on the 23rd of the month he was made a bachelor; on October 8th he was licensed; and on December 18th the Master's bonnet was placed upon his head.

We find Ambroise Paré, at the age of 45, at the top of the surgical ladder—so much so that he served as personal attendant to four Kings: Henri II; François II; Charles IX; and Henri III. He was a fine figure of a man, of grave and dignified deportment. Though pious and kind, and though devoting much time to the treatment of the poor, he still had a very large clientele among the rich, largely due to his high standing with the king, so that, when he died at the age of 81, in 1590, he was a rich man.

It is a curious sidelight on history to note that, after Paré's death, surgery regressed until the time of Louis XIV. Perhaps it is for this reason that the vital discoveries made by Paré, retaining (as they did) their importance, kept his name so bright in the following years (and even until today) that, 400 years later, the world celebrated his memory as the "Father of Surgery."

LEADING ARTICLES

The Nature, Identification, and Treatment of Psychoallergy*

By Wallace Marshall, M.D., University, Alabama

THE previous paper (see *CLIN. MED. & SURG.*, Apr., 1937, page 149) outlined briefly the theory of psychoallergy and gave some clinical examples of psychoallergic states as they exist in normal persons. In the present work, an attempt will be made to study the nature and the identification of the psychoallergic state; furthermore, treatment will be outlined.

If we understand what factors we meet in conditions of psychoallergy, and have some knowledge of how they react upon an individual, we will have a fairly sound basis for the consideration of proper and intelligent treatment.

Basis of the Theory

A psychoallergen can be defined as a psychic factor in an individual, of perceptive nature, which is capable of producing or exciting a condition of specific hyper-susceptibility to that agent, by means of one or more afferent mechanisms.

It follows that psychoallergy is that specific state of hyper-susceptibility which has been induced by the action of perceived psychoallergens. Consequently, an individual may become hypersensitive to various psychoallergens, and these psychoallergic states can be thought of as complexes. Freud defines complexes as "circles of thoughts and interests of strong affective value, of whose influence, at the time, nothing is known and which are unconscious." These complexes, according to our concept, are not known to the individual unless he possesses an understanding of the particular hypersensitive state and how it comes into being. Thus these complexes can be reduced to biologic concepts of tissue potentialities which can be measured experimentally, for it is known that all vital processes are accompanied by electrical manifestations which are generally known as bio-electrical phenomena.† The constant change in the chemical constitution

of protoplasm sets up these electrical currents, which vary in intensity and time relationships.

Berger¹ considers it definitely proved that physiologic processes in the cerebral cortex are subordinate to the psychic processes, which he is able to demonstrate by means of the electro-encephalograms. Furthermore, psychic activities are associated with an elevation of the general blood pressure, slight acceleration of the pulse, increase of blood inflow to the brain, dilatation of the brain vessels, and a simultaneous constriction of the skin vessels of the head and extremities.

In another paper, Berger² reports that sensory stimuli exert a definite influence on the alpha waves of his records, and that psychic work influences these waves. The degree of concentration parallels the changes in the electro-encephalogram. Attention, as well as concentration, is associated with afferent stimuli. Berger³ thinks that the electric potentials of ganglion cells, and not the nerve fibers, are involved in the expression of this phenomenon. Voss⁴ reports that psychic activity, as in tasks of computation, leads to demonstrable periodic oscillations in the ability to perform the task, and thinks that this is proof of a central origin of the variation in attention and is recorded by these apperception waves. This same paper refers to the oscillative variation of memory pictures and of other psychologic processes and seems to be worthy of consideration.

From this important experimental work we may stress the aspects of perception, for we know that a normal child at birth possesses sensitivity to perceptions (central aspect). The child also possesses the perceptual mechanisms (peripheral aspect). The experiences which the child receives record themselves in the neurokymal tissue of the brain, which becomes sensitized to these afferent stimuli. In other words, learning can be regarded as a definite and specific sensitization of the central neural apparatus to peripheral stimulation. We can say that the child becomes hypersensitive to concepts which he learns in such a manner, and this may serve as the basis of the psychology of learning.

*From the Department of Medicine, University of Alabama, School of Medicine.

I am much indebted to my former Professor of neuropsychiatry, Dr. Sigmund Kruinholz, of Chicago, with whom I consulted and outlined plans for this theory when I was in medical school (Northwestern) in 1932.

† Also see recent work of Travis and of Adrian on this topic.

These premises enable us to reason that there can be, at least theoretically, two different types of amentia (lack of intellectual ability), besides the congenital and acquired types of Tredgold. There can be amentia due to lack of development or loss of the cortical or intrinsic material; and there can be the form which may be due to lack of development or a loss of the perceptive or extrinsic mechanisms. The first type of amentia is intrinsic, cortical, or cerebral, and the second type is perceptive, extrinsic, or peripheral in nature.

So far, I have spoken of the normal aspects of sensitivity which have to do with the processes of learning, association, and the like. When and how do the pathologic aspects enter the picture?

Pathologic Reactions

In terms of this theory, the pathologic aspects come into play when the individual shows an unusual or exaggerated specific hyper-susceptibility to these perceptive stimuli, which are harmless in similar amounts for the majority of the persons in his environment.

Thus, as an example, a psychoallergic person might show emotional reactions when he has to use a particular driveway in order to park his car. The person is psychoallergic because he reacts to the driveway in an ordinary manner. Most people would not even consider this particular driveway as possessing anything in the way of significance. However, if one is told that this particular person happened to back his automobile down that driveway, and, in doing so, struck down his child, who happened to be standing in the way, and that, at the time of the accident, he distinctly felt the bump of the car as it hit the child and, as he backed down the driveway, he saw the child lying motionless there, we can well realize what a decidedly large sensitizing dose of psychoallergen he received. We can understand why he suffers emotionally when he sees the driveway or thinks of the child as it lay there.

Since experimental evidence points to a definite psychoallergic state which may exist in the cortical and subcortical areas of the frontal lobes, it is not a great stretch of the imagination nor a radical departure in rational thinking, to consider the results of Freeman and Watts,⁵ who report the treatment of six cases of psychoses by attacking the subcortical areas by means of a lobotomy which is performed in the prefrontal region. These workers state that "it is as if the 'sting' of the psychosis had been drawn" in the operated cases, which showed "a common denominator of worry, apprehension, anxiety, insomnia, and nervous tension."

For a detailed exposition of the psycho-

allergic interpretation of the insanities, see the recent paper by Marshall and Tarwater⁶. Another paper, by these same authors, compares the etiologic factors in allergic and psychopathologic conditions⁷.

Identification of Psychoallergic States

Now that we have some concept as to the nature of psychoallergens and their state of specificity in psychoallergic states, we can consider their detection or identification. In such a consideration, we face uncertain and not well understood observations. We find that this phase of the subject is in an experimental stage. Consequently, methods which are available for identification of psychoallergens may be faulty and need further work in improvement of our rather limited means of their detection.

As Dunbar⁸ states, the measurement of the psychosomatic relationships and the emotional relationships which are involved present many difficulties. Among the available methods we find such procedures as:

- 1.—Pathologic studies (changes in brain tissue, etc.)
- 2.—Studies of diatheses (Kretschmer; Draper; Freeman.)
- 3.—Biochemistry (including blood chemistry, etc.)
- 4.—Colloidal chemistry.
- 5.—Capillaroscopy (Wright and Duryee; Joensch.)
- 6.—Psychogalvanic studies ("lie detector," etc.)
- 7.—Plethysmographic studies.
- 8.—Basal metabolic rate studies.
- 9.—Studies in histic changes (cardiorespiratory, blood pressure, height and weight, sweating, etc.)
- 10.—Electro-encephalograms.
- 11.—X-Ray studies (Cramer and Wittkower; Heyer; Cannon).
- 12.—Psychologic studies (as word association test for determination of presence or absence of emotional complexes.)
- 13.—Clinical observation: (a) *Histic type*—examination of patients for Marshall-White syndrome; signs of nervousness; biting of nails; blepharospasms; tics; athetoid movements; hysterical gaits; muscular spasms; etc.⁹; (b) *nousic types*—manias; phobias; perceptual difficulties, such as illusions and delusions; "indicators" of the psychoanalyst, as slips of words and conduct.

These are the more commonly used methods used in determining the presence of psychoallergic states.

Classification

I shall now consider what types of psychoallergens may precipitate a patient into a fulminating state of psychoallergy, using some percentages, which refer to the sensitizing types of psychoallergens, which Strecker and

Ebaugh¹⁰ term "psychoneurotic predispositions."

| | |
|---|-----|
| 1.—Unfavorable early home life..... | 70% |
| 2.—Sex conflicts, sex disturbances, conflicts over masturbation, illicit intercourse, puberty, and the menopause..... | 22% |
| 3.—Marital crises (domestic difficulties) 12% | |

Strecker and Ebaugh find that, in cases of schizophrenic reaction types, the most common psychic insults (psychoallergens) are cruelty, poverty, illness, death of relatives, and unhappy love affairs. No percentages are given.

In a series of 100 cases of reactive depressive psychoses, we derive the following percentages from the number of cases and their precipitating factors (psychoallergens), as originally listed by Strecker and Ebaugh,¹¹ which are (each case represents 1%):

| | |
|---|-----|
| <i>Personal problems:</i> (38%) | |
| Illness or death of immediate member of family | 16% |
| Ill health, with verified somatic disease | 12% |
| Personality difficulties—emancipation problems, etc. | 4% |
| Sense of financial dependence on family | 4% |
| Conflict over moral or religious issue. | 2% |
| <i>Economic problems:</i> (26%) | |
| Financial stress, reverses, unemployment, etc. | 26% |
| <i>Marital problems:</i> (16%) | |
| Subordination, personality clash, marital and sexual incompatibility..... | 10% |
| Fear of pregnancy and unwanted child | 4% |
| Infidelity of spouse | 2% |
| <i>Sexual problems:</i> (15%) | |
| Delinquency, infidelity, promiscuity..... | 11% |
| Autoeroticism | 3% |
| Seduction, rape | 1% |
| <i>Social problems:</i> (5%) | |
| Frustration of social ambitions and inadequate adjustment | 5% |

From these valuable tables of Strecker and Ebaugh¹² we are able to obtain some ideas as to types of psychoallergens and how often they are present, which may enter into the production of these psychoallergic states.

Treatment

This brings us to the consideration of the treatment of these psychoallergic conditions. One can include all types of psychiatric treatment which are accepted at the present time, and there are many. Consequently, their consideration will be discussed in four divisions: (1) medical; (2) surgical; (3) psychologic; and (4) psychoallergic (nonspecific desensitization).

The medical aspect of treatment includes a complete history (including psychiatric),

physical examination, and consultation with specialists for various disorders in the fields of gynecology, obstetrics, ophthalmology, etc.

Colonic irrigations, gastric lavage, dia-phoresis, intravenous therapy with various percentages of dextrose and saline infusions are employed. (See Prof. F. A. Coller's recent work); also chemotherapy, auto-hemotherapy, and physical therapy (which includes such measures as tub baths, hyperpyrexia machines, cold and warm wet packs) are extensively used. Occupational therapy is being employed to a greater extent yearly. Various diets are prescribed.

Of the drug armamentarium, mercury and various arsenicals, such as Mapharsan, neo-arsphenamine, tryparsamide, etc., are made use of. Lately, Sakel has introduced insulin shock, with a resultant condition of hypoglycemia, in cases of schizophrenia. Carbon dioxide gas has been used by many, as a temporary means of arousing these patients (especially the catatonic types) from stupors. Other drugs are employed for the same purpose, and among these barbituric acid derivatives, especially Sodium Amytal, have been employed intravenously, with some success. Other methods of medical therapy include dehydration, spinal tap, and forced drainage of the cerebrospinal system.

The psychologic type of treatment includes the Wier Mitchell method—that of rest and quiet. According to our theory, improvement which is noted in the cases which have been subjected to this form of therapy, result from isolation of the patient from the various psychoallergens which cause his state of psychoallergy. It is very much like placing a pollen-sensitive patient in an air-conditioned room or removing him to a high mountainous area, where the pollens cannot pollute the air. We, in Bryce Hospital, find that mental patients generally improve if irritative elements are withheld from them, even if no active therapy is given, other than rest and quiet, nourishing food, etc.

Then there is the re-education of the patient and his family, whereby insight into the patient's mental disorders is stressed, so that he may be relieved of some of the psychoallergens which cause his trouble.

The next type of treatment is mental catharsis, which Strecker and Ebaugh term "desensitization." Conflict material is reviewed by means of repeated interviews with the patient, who has an opportunity to face the traumatic material until he reacts without excess emotional concern, such as fear reactions, etc.

Another psychologic method is psychoanalysis, which is a study of the patient's subconscious motives and desires. Various techniques are employed to ferret out the conflicts, and the analyst weighs the material which the patient gives. The patient thus slowly gains

an insight in regard to his difficulties, and cure or improvement (if any) results from the readjustment of the outlook which is made possible by bringing the repressed material into consciousness¹³. From the psychoallergic point of view, the analyst directs the patient's attitude toward the psychoallergens which the patient uncovers. This slow contact of psychoallergen, in small doses, with the patient may bring about a state of desensitization by very much the same type of technic as that employed by the allergist, who injects a minute amount of ragweed pollen into a patient who suffers from ragweed, in order that desensitization may take place. In both types of therapy the patient becomes refractory to the irritative agent.

Suggestion, persuasion, and hypnosis are other psychologic methods. According to my point of view, the physician is able to improve the patient's mental difficulty by means of direct perceptual means. In such a case, it is very much like introducing antitoxin in a case of diphtheria. The physician suggests means and measures which will desensitize the patient to the particular psychoallergens which trouble him.

Reorientation and placement of the patient in a new environment is a sociologic aspect in treatment and can be interpreted as a transportation of the patient to new surroundings where he will be free from irritative psychoallergens.

It will be well to bear in mind that the psychoallergic type of treatment (method of nonspecific desensitization) is not well founded at the present time and is presented only from a theoretical point of view. In employing such a method, we attempt to desensitize a patient to his psychoallergens by using nonspecific desensitizing agents, such as those which are employed, with varying success, in the realm of the treatment of allergic cases. Histamine phosphate and beef peptone are agents which are used. They are given in graded doses, starting with a minute dose, and are carried up to a point of tolerance. I am not in a position to state, at present, what success accompanies such procedures. This method is presented only for the theoretical and scientific interest which it may contain.

Therapeutic Review

I have emphasized, in this paper, that we deal with the peripheral mechanism, which has to do with perception, and which conveys the effect of the psychoallergen to the central apparatus, or higher centers, where some emotional upset takes place and a state of psychoallergy is produced. As precipitating doses of associated psychoallergens are introduced, the human organism responds to this abnormal state via the efferent outflow, mostly by means of the vasmotor component of the autonomic nervous system.

With these concepts in mind, one can grasp what is attempted therapeutically. Various means are used to dull perception (sedatives); affect the central mechanism (surgery, hyperpyrexia); or to change the psychoallergic state through the perceptive mechanism (hypnosis, suggestion). Desensitizing processes are used also, either by the removal of the irritative factors or by the removal of the patient from the irritative environment. Another therapeutic procedure is to jar the humoral-immunologic mechanisms (reticuloendothelial system) by the production of near-shock or shock (insulin, dehydration, histamine). General medical measures are employed to build up the patient or to rid the body of concurrent infections or maladies.

Summary

I have attempted to review the bodily reactions to irritative psychic factors which produce a psychoallergic state in some individuals, and have defined the irritative substances and described the possible modus operandi in the production of the abnormal states.

Experimental evidence is offered in an attempt to introduce a biologic explanation for these emotional symptoms, which, heretofore, have been enveloped in mystery and terms which are foreign to the biologic field.

The various methods of identification of the psychoallergic states are reviewed, and various methods of treatment are correlated with the patho-physiology of the psychoallergic individual.

I have mentioned some experimental methods and suggestions, with the hope that other investigators will aid in proving or disproving these concepts of normal and abnormal behavior in terms of psychoallergy.

Bibliography

- 1.—Berger, H.: Electro-Encephalogram of Man and Its Significance for Psychophysiology. *Ztschr. f. Psychol.*, 126: 1, 1932.
- 2.—Berger, H.: Electro-Encephalogram of Man. *Arch. f. Psychiat.*, 94: 16, 1931.
- 3.—Berger, H.: Electro-Encephalogram in Man. *Arch. f. Psychiat.*, 99, 555, 1933.
- 4.—Voss (Quoted by Berger, H.): Electro-Encephalogram of Man. *J. f. Psychol. u. Neurol.*, 40: 160, 1929.
- 5.—Freeman, W., and Watts, J.: Prefrontal Lobotomy in the Treatment of Mental Disorders. *South. M.J.*, 30: 23, 1937; also *CLIN. MED. AND SURG.*, Feb., 1937, for article by Dr. Freeman.
- 6.—Marshall, W., and Tarwater, J.: Psychoallergic Interpretation of the Insanities. *Southwestern Med.*, Apr., 1937.
- 7.—Marshall, W., and Tarwater, J.: Comparative Study of Etiologic Factors in Allergic and Psychopathologic Conditions. To be published in the *A. J. Psychiat.*
- 8.—Dunbar, H. F.: "Emotions and Bodily Changes." Columbia University Press, N. Y., 1935, page 82.
- 9.—Marshall, W.: Psychoallergy in General Practice. *CLIN. MED. AND SURG.*, April, 1937.
- 10.—Streckler, E., and Ebaugh, F.: "Practical Clinical Psychiatry." P. Blakiston's Son and Co., Philadelphia, 1935, page 511.
- 11.—Ibid, page 383.
- 12.—Ibid, page 314.
- 13.—Stephen, K.: "Psychoanalysis and Medicine." University Press, Cambridge, 1935.

Local Physiologic Rest As a Therapeutic Aid

By Sheppard S. Povlin, M.D., New York City

CENTURIES ago, Galen pointed out that "pain is useless to the pained." However, in discussing this he probably conceded the unquestionable value of pain as a diagnostic aid. Defining it as a nervous sensation manifested by some injury or other unnatural irritation to tissue, he probably readily admitted it as a most necessary storm-sign of danger, and of great significance to the physician, in its presence, location, and nature in diagnosis. What he must have meant was that, once it has served its purpose, it should be eliminated, not merely because it is humane to do so, but, as is the purpose of this report to indicate, because it is therapeutically sound. Broadly, one has only to point to the lowered mortality rate since the advent of anesthetics, local and general, to substantiate this. No originality for the idea is claimed here, yet it is hoped that this will be a contribution to the thought by reporting on findings with some of the more recent preparations which seem to approach the ideal towards this end. It is understood that pain is here taken to include sensations of burning, itching, and similar irritations of severe degree.

It is this local relief from pain for therapeutic effect that Hilton¹ described as "physiologic rest" and stressed so strongly, for the treatment of accidental and surgical wounds, in the course of lectures he delivered at the Royal College of Surgeons, in England. On the simple premise that pain may be considered nature's agent to compel man to rest the entire body or merely the injured part, to allow for healing, he builds up the thesis that rest—physiologic rest—is conducive to healing. This is accomplished by interrupting the nerve response or sensitivity of the part. One of the simplest examples in this work is that of a painful, irritable ulcer, the sensory nerve of which was divided at a point between its exposed terminal and the spinal marrow. Relief from the pain was instant and the healing of the ulcer rapid.

A possible, if theoretic, explanation of the part anesthetics play in promoting healing may be found in the axon or pseudo reflexes discussed by Howell² and others. It has been demonstrated, for example, that the local vasodilation caused by irritants, such as mustard oil, applied to the conjunctiva, is greatly diminished if the substance is applied after a local anesthetic has paralyzed the sensory nerve fibers. Thus it would seem that the vasodilation effects of the irritant have been in the nature of a local or pseudo reflex acting through the nerve supply, rather than directly on the blood vessels. It

might be described as a peripheral reflex, taking place entirely through sensory nerve fibers, parts of which, under these conditions, are made to act like motor nerve fibers. These are located through the many sympathetic ganglia along the course of the blood vessels. Since this is so, it follows that we can take advantage of it to reduce inflammation and stagnation of a part by the action of local anesthetics, in turn promoting healing of the part. Clinically, this has been confirmed by Spiess, Gigon, and others.

In addition to this ultimate beneficial action, the immediate effects of this relief of the nerve response of a part will be appreciated readily. With comfort to the patient and convenience to the physician, it allows for painless cleansing, treating, and suturing of a wound or the like, with an inevitably better cosmetic result. However, in most cases, denervation is impractical or unwarranted by the nature of the condition. The same or better effect can be accomplished by local anesthetics. Hilton speaks of this, but does not follow through on the idea because of the limitations of the agents available at the time he wrote.

The ideal anesthetic for this purpose would have (1) to be effective topically; (2) to possess long-lasting action; (3) to be non-narcotic and comparatively non-toxic; (4) to be relatively inexpensive; and (5) to be non-staining in the form used.

Bartholow³ described the use of a 10 percent solution of an anesthetic agent, Alypin, before and after the cauterization of wounds in his rabies clinic with fuming nitric acid. Fritz and Tanner⁴ report the use of a Novocain (procaine) pack, using solutions with a maximum strength of 5 percent.

Nupercainal

Having tried this and other procedures, as well as various other local anesthetics, it was concluded that Nupercainal approaches most closely to the ideal agent. Chemically different from the older anesthetics (being derived from the quinoline nucleus), Nupercainal has been receiving growing favor in all fields requiring topical or infiltration anesthesia. Its effectiveness, safety, and markedly sustained action for spinal, urethral, eye, nose, throat, and other fields for local anesthesia, have been consistently confirmed by reports from leaders in these respective fields. Discussion here will be confined to the topical method of application, and specifically to the ointment, known as Nupercainal, containing 1 percent of Nupercainal base.

This ointment has served ideally to afford sustained anesthesia of mucosal or skin abrasions. Minnich⁵ has found it satisfactory for

the relief of pain resulting from trauma of the eye. Butler⁶ finds it "an extremely useful preparation for application to lesions of mucous membrane and skin, both because of the prompt and lasting relief from pain and itching it affords, and also because of an apparent antiseptic action." He expresses the belief that it affords a definite healing effect, as observed following its application in a personal case of a painful ulcer that showed no signs of healing. Nupercainal, essentially applied to relieve the pain, allowed the formation of healthy granulation tissue and quick healing. Litten⁷ describes the rapid healing of fissures in the breasts of nursing women under treatment with Nupercainal. Best⁸ has used it satisfactorily after proctologic operations.*

In addition to its use in these now commonly accepted applications, where it is desired to afford sustained relief in cases of pruritus ani and vulvae, in ulcers, burns, and the like, I have found it most satisfactory as a dressing following the suturing of wounds and other severe surgical repairs. Its prolonged anesthetic action and its probable antiseptic properties render it ideal in this type of work. It would appear that healing is accelerated by the physiologic rest thus provided. As pointed out by Massey¹⁰, and later by Dodd¹¹, ointments are ideal for dressing most wounds and keep the gauze from sticking to the surfaces. The advantage of Nupercainal is its ability to provide effective and prolonged anesthesia; probably to assert an antiseptic action; and finally, the nature of its vehicle, which mixes readily with the exudate.

The following brief case reports are offered as typical of the results obtained in various dermatologic, medical, surgical and gynecologic conditions:

Case Reports

Case 1:—Child, age 6. Following postoperative treatment for osteomyelitis, marked irritation and excoriation were noticed in the wound after irrigation with Dakin's solution. Application of Nupercainal around the region of the wound afforded comfort and allowed for healing of the lesions.

Case 2:—I. P., age 23, had old scars following an incision around the neck. The use of electrocoagulation in removing excess scar tissue induced a prolonged sense of burning. The application of Nupercainal afforded sustained relief.

Case 3:—M. F., age 51, housewife, had a colostomy for carcinoma of the sigmoid. Around the new opening, marked irritation

*In a short but pointed paper, Plunkett⁹ reviews the importance of relief from irritation in the treatment of chronic ulcers. He indicates how injury, followed by irritation, in turn making for nerve stimulation, exudation, and disintegration, with the liberation of more irritants, forms the cycle which keeps these ulcers from healing. His paper includes case reports typical of the way in which he has successfully used Nupercainal as a nonirritant anesthetic dressing for chronic ulcers.

and inflammation developed, causing many days of distress. The local application of Nupercainal to the tissues and its use as a lubricant for the irrigation catheter produced gratifying results.

Case 4:—L. M., age 26, following a forceps delivery, had a number of sutures in the perineum, causing discomfort and irritation, which were relieved by a thin dressing of Nupercainal.

Case 5:—L. B., age 21, suffered small tears of the perineum following a normal delivery. The pain and itching were relieved by Nupercainal.

Case 6:—F. S., age 34, an army captain, had an old gonorrhoeal infection, which required urethral dilation. A small amount of Nupercainal smeared on the sound relieved the spasm, and instrumentation was carried out successfully. Previous attempts had elicited severe pain and spasm.

Case 7:—L. R. was a child, four years old, with anal fissure. Defecation caused pain, and the child suffered from constipation, loss of appetite, and eczema. The anus was easily dilated, using Nupercainal as a lubricant, with relief from constipation, followed by general improvement.

Case 8:—S. P., age 67, suffered for a number of weeks with irritation and itching following a suprapubic prostatectomy. Sustained relief was afforded by applications of Nupercainal.

Case 9:—H. F., age 31, a physician's wife, suffered post-menstrual irritation and itching, just below the vulva on the upper thighs, for years without relief. A few applications of Nupercainal afforded quick relief and ultimate healing.

Summary

Physiologic rest by the use of anesthetics is desirable from the practical viewpoint, as regards the psychologic effect on the patient and the convenience of the doctor in treating and dressing lesions, and therapeutically because it seems to allow quicker healing and more rapid epithelial formation.

Nupercainal has proved to be the ideal agent for this purpose, because of its effectiveness topically, its great potency, and its markedly sustained action.

Bibliography

- 1.—Hilton, John: "Rest and Pain," 5th Edition. London, G. Bell & Sons, 1907.
- 2.—Howell, William Henry: "A Textbook Of Physiology," 13th Edition, Page 158. Phila. & London, W. B. Saunders Co., 1936.
- 3.—Bartholow, Paul: "Alypin." Cutting, Coll. Studies Research Lab., N. Y., 1911, Vol. 6, page 26.
- 4.—Fritz, Milo & Tanner, E. K.: The Novocain Pack. *N. Y. St. M. J.*, Dec., 1935, page 1219.
- 5.—Minnich, Wm. C.: Use of Nupercain Ointment in the Eye. *A. J. Surg.*, New Series, Vol. XXX, No. 3, page 509.
- 6.—Butler, T. J.: Nupercaine Ointment as a Dressing for Painful Lesions. *Med. Rec.*, Sept. 18, 1935.
- 7.—Litten, L.: *Deutsche med. Wochenschr.* Vol. 57, No. 7, page 279, Feb. 13, 1931.
- 8.—Best, Russell R.: Use of Certain Anesthetic Agents in the Postoperative Phase of Anorectal Disease. *Trans. Am. Proct. Soc.*, Chicago, Ill., June 12 and 13, 1933, pages 107-110.
- 9.—Plunkett, C. L.: Nupercainal Treatment of Chronic Ulcers. *Med. Rec.*, Apr. 7, 1937.
- 10.—Massey, Geo. B.: Ointment in Granulating Wounds. *M.J. & Rec.*, April 26, 1913.
- 11.—Dodd, Verne A.: Protection of Granulations. *J.A.M.A.*, Apr. 19, 1914, pages 1247-1249.

Symptoms of Diverticulitis

By Charles J. Drueck, M.D., Chicago

THE statement is made that diverticulitis of the colon and sigmoid may exist indefinitely without causing any symptoms, but to this statement I cannot subscribe. The fact that individuals go through life without complaining of local distress and that diverticula are found in some such persons' postmortem, does not substantiate this claim.

Whether or not many cases fall under the heading of symptomless diverticulosis really depends on one's conception of what constitutes symptoms. Patients in whom we discover diverticulosis accidentally, during roentgen-ray study, almost invariably have complained of sufficient physical distress to bring them to consultation with a physician, and he has found symptoms enough to warrant a roentgen-ray examination of the colon, else the diverticula would not have been discovered. It is difficult to draw a sharp line of differentiation between the cases of purely symptomless diverticulosis and the enterospasm type of diverticulitis.

All people with diverticula have symptoms, but the symptoms are overlooked or misinterpreted and are considered as being due to dietary indiscretion or to local pelvic disease. There is always a dull, aching pain. The general practitioner, unfamiliar with diverticulosis, may not recognize this syndrome of a dull, aching pain, accompanied with attacks of diarrhea, alternating with constipation and gaseous distention. When these lesions occur on the right side, in the region of the appendix, cecum, or ascending colon, they are much more likely to receive serious attention and be discovered than if they are on the left side. This is obvious when one considers that most of the acute abdominal conditions are confined to the right abdomen and that most of the developmental abnormalities are on the right side. Naturally, when a patient complains of right-sided pain, he is more promptly palpated and roentgenographed than when his complaint is on the left side; although diverticulosis occurs much more frequently on the left side, and particularly in that most variable portion of the alimentary canal, the sigmoid. A few diverticula have been found in the rectum and anal canal. It is estimated that diverticula occur in one-third of the cadavers of the aged, but it is doubtful if all of these cause symptoms, and the exact incidence is difficult to determine because, in routine postmortem examinations, the pelvic bowel is not given the critical attention necessary to recognize these minute herniations.

In diverticulosis of the sigmoid, patients

give a fairly clear history of left-sided abdomino-pelvic discomfort of many years' duration, with persistent constipation and pain in the left iliac fossa. There need be no intestinal obstruction. Vomiting is infrequently mentioned. Periods of intestinal upset occur more or less regularly and, in the intervals, the individual is often symptom-free except for constipation. The constipation during the attack is very obstinate, and the abdominal pain subsides rather slowly after the constipation is relieved. On digital examination of the rectum a mass may be felt in the region of the sigmoid flexure, but it cannot be seen through the sigmoidoscope.

Lynch suggests that, as the sigmoid is a very mobile portion of the colon, "up in the abdomen one moment and in the pelvis the next," and always subject to twists from without and trauma from hard fecal masses from within, it is constantly exposed to inflammation.

Inflammatory change in a diverticulum (diverticulitis) may result from a number of mechanical conditions, most frequently the formation of fecal concretions, the lodgement of foreign bodies in the sac, or torsion of the diverticulum. When diverticulitis develops, its signs and symptoms simulate those of the various types of appendicitis, such as the fulminating, in which pain in the left lower quadrant rapidly spreads over the abdomen, the pulse and temperature keeping pace with the invasion; or there may be thinning of the mucosa, permitting extravasation of the toxins into the bowel, with the production of local peritonitis and adhesions; or the diverticulum may become strangulated and slough off into the peritoneal cavity; or an abscess may form and wall itself off or perforate, thus presenting the same symptoms as any other abscess opening into the bowel or peritoneal cavity; or there may be a hyperplastic infiltration with tumor formation, as in tuberculosis (this last type is the most frequent and causes obstruction); or, finally, malignant degeneration may occur at any time. Sacs may remain inactive for years, or at any time may become infected and inflamed.

The character of the contents of the diverticulum determines whether it remains symptomless or not. The small intestine is filled with fluid material while the lower part of the colon contains semi-solid or firm feces, which tend to be retained and thus set up secondary changes in the walls of the diverticulum. It is important to realize that the diverticula themselves are not harmful. It is the fact that they retain old fecal material which is the cause of possible trouble.

Differential Diagnosis

Adhesions may form between the peridiverticular inflammatory mass and other viscera, chiefly the bladder, thus leading to vesical irritation; or to the fallopian tubes or ovaries, causing pains simulating those of salpingitis; or, by actual matting together of the pelvic viscera, may cause genuine pelvic disease. In this manner peridiverticulitis may mimic all types and varieties of pelvic disease, and must needs be differentiated from tuberculosis of the bowel, chronic appendicitis, actinomycosis, intestinal obstruction, carcinoma, chronic sigmoiditis, sigmoiditis with carcinoma implanted, fecal impaction, encysted foreign bodies, pelvic peritonitis, ovarian tumor, other diseases of the adnexa, and vesical tumors.

As was natural in the earlier cases, with masses involving the sigmoid and upper rectum, occurring, as they do, in the so-called cancerous period of life, the diagnosis of malignant disease was commonly made. From the knowledge acquired through operation and pathologists' reports, the clinical diagnosis has become more conservative, and more recent cases have been positively diagnosed before operation. The obscurity which has always existed about this pathologic condition is to be expected, when we consider that it is a condition likely to be overlooked at necropsy and which may be harmless and relatively symptomless during life.

Acute Diverticulitis

The symptoms in the early stage are those common to the early stage of many abdominal diseases, and signify a very limited peritoneal irritation (peridiverticulitis). The patient, usually a middle-aged, obese male, with a history of constipation, notices slight but repeated intestinal upsets, characterized by vague abdominal distress; perhaps attacks of colicky pain; discomfort and heaviness or "sinking pains" in the lower abdomen, usually on the left side, but it may be appreciated in the right lower abdomen instead. This abdominal pain lasts from a few hours to several days and is associated with tenderness on palpation, constant fever, as high as 104°F., and chills, with or without vomiting. The leukocyte count goes up to perhaps 20,000. There is a notable absence of signs of tumor or obstruction, or of suppuration, such as would demand urgent surgery. The signs are those of acute colitis. Constipation is usual, occasionally alternating with diarrhea. Examination of the stools at this stage of the disease seldom reveals the presence of blood, although, in the cases of peridiverticulitis with tumor, about one-fifth of the patients show blood in the intestinal excreta.

In advanced cases, when the inflammation extends deeply into or through the diverti-

culum, localized tenderness and cramps are complained of, with marked constipation, alone or alternating with diarrhea, the sensation of blocking, fecal impaction, and painful, indefinite swelling in the sigmoid region. In a few days the pain, tenderness, and swelling may subside, and in two or three weeks the patient recovers. In this pseudo-appendicitis type the patient, usually with a long history of diverticulitis of the spastic type, suddenly develops acute symptoms demanding attention. These symptoms should be distinguished from the true left-sided appendicitis, which occurs only with the non-rotation of the colon or in cases of true transposition of the viscera, but otherwise the complaints and signs are quite similar. They always suggest the need of surgical intervention, at least for drainage of the infected area.

In the severe, obstructive cases, the symptoms are those of long-standing constipation, with perhaps a history of several acute attacks simulating the so-called left-sided appendicitis, but with progressively obstinate constipation; the development of colicky pains, notably across the transverse colon and in the right side of the abdomen; small, frequent stools or impulses to move the bowels without good results; and usually a palpable tumor. This tumor, thought to be due to bacterial inflammation of the intestinal wall, is generally described as sausage-shaped and exhibits intermittency as one of its important characteristics. The appearance of a mass and its subsequent disappearance, with reappearance within a few days, is one of the most reliable signs of perisigmoiditis due to diverticulitis. This tumor may be felt either abdominally, rectally, or on a combined examination. There may occur a rare case of right-sided diverticulitis, indistinguishable from appendicitis and perhaps even suggesting gallbladder disease. Here, as in other parts of the colon, the symptoms will depend somewhat on the exact situation of the inflamed diverticula.

Chronic Diverticulitis

The chronic form of this disease is the commonest of all. The patient has abdominal discomfort, less often pain, in the lower abdomen or about the navel, but especially in the left iliac fossa. General flatulence and a feeling of distention are the usual complaints. Constipation is frequent, or irregularity of the bowels, or diarrhea, or a sense of incomplete evacuation. Occasionally there is hemorrhage from the rectum. A sausage-shaped tumor, sometimes but not always tender, can be felt in the left iliac fossa, except in the obese. While the history of repeated appearances of a slight amount of blood in the stools is very common in carcinoma, it is usually absent in diverticulitis, and thus

affords a valuable means of distinguishing between the two conditions. This distinction is by no means invariable, however, as blood is occasionally found with diverticulitis; and the patient may also have hemorrhoids.

Abscess Formation

Abscess formation occurs when a perforation, instead of suddenly flooding the peritoneum, is shut off before the rupture is complete. There may be repeated small leaks of infectious material, and the condition is then described as chronic perforation with abscess, because no single gross perforation is demonstrable. This is the socalled "peritonitis sinistra" and constitutes the largest group demanding surgical treatment. It presents many variations in the clinical course and terminations.

Abscess formation may develop with spontaneous rupture, most frequently through the bladder. This may result in a permanent vesico-sigmoidal fistula. When perforation of the ulcer takes place into the peritoneal cavity a spreading peritonitis appears. At such times the fasting (Ochsner) treatment is carried out until the acute condition subsides to a chronic state. Fistulas between two portions of the intestine may occur, and rarely do they heal spontaneously. Occasionally they lead to the formation of other abscesses which rupture spontaneously, with the formation of multiple fistulas.

Bladder Involvement in Diverticulitis

Perforation of a diverticulum into the bladder, with the subsequent development of a severe cystitis and a sigmoido-vesical fistula, may be confused with malignant disease of the bladder and bowel, and is somewhat difficult to distinguish, even when a cystoscopic examination is made. Telling and Gruner reported 38 instances of bladder fistulas, 25 of which were certainly, and 13 very probably, of diverticulous origin. In

280 cases of diverticula they found 33 instances of adhesions between the bladder and intestines.

When the inflammatory mass adheres to the bladder, there arises, at first, vesical irritability with increased frequency of urination. Actual communication between the bowel and bladder results in the passage of gas and feces through the urethra, and causes marked cystitis, accompanied by periodic attacks of frequent and painful urination. Pneumaturia is a characteristic sign of the establishment of a fistula, and occurs in but few other conditions, among which are the fermentation of urine containing sugar; cystitis caused by gas-forming bacteria; and malignant disease with erosion involving the bladder and intestine.

The intestinal symptoms which occur in diverticulitis with a vesico-sigmoidal fistula may easily be overshadowed by those of the marked bladder inflammation. Vague abdominal distress may or may not have been previously present. Thus the history is often of little help in making the correct diagnosis. Careful cystoscopic examination sometimes reveals only the presence of severe, generalized cystitis; foul urine full of pus; and a bladder mucosa that is intensely inflamed without any definite sign of a fistulous opening. On the other hand, the mouth of the fistula may be observed in the mucosa, with gas issuing from it into the bladder. Together with the cystitis, pyelitis of one or both kidneys is frequently found. It is an easy mistake to consider the infection in the renal pelvis as the underlying cause of the cystitis. But, of course, measures which ordinarily give relief in an infection limited to the urinary tract will fail to have any lasting effect on the chronicity of the cystitis due to a fistulous communication with the bowel.

58 E. Washington St.

DISTRIBUTION OF PROFITS

Loose and deceptive talk of profits and of what the wage-earner would have if he got it all, requires the corrective of facts. The philosophy of "taking everything," whether practiced by management or labor, or by both together, or by government tax collectors, results in nobody's getting anything. That is natural law. Wealth must circulate. Enlightened business is aware of this law and respects it. Business has not by any means, reached perfection, but the better class of business is consciously and intelligently and continuously moving toward improvement, and as a result the circulatory volume is growing fuller and richer, and the social body is being served with a more adequate supply of the economic vitamins essential to national welfare.—W. M. CAMERON, in broadcast over Columbia System.

SLANG

The unconscious genius of the people no more invents slang than it invents epics. Slang is coined, in the sweat of their brows, by "smart" writers who are "out for the coin."—W. D. WHITNEY.

Treatment of Ivy Poisoning and Similar "Burns"

By Ralph Gorrell, M.D., D.N.B., B.S.M., Clarion, Iowa

SOMETIMES it is the little things in life that count. One may be able to remove an appendix with speed and superb technic; but woe to the physician who can not relieve the itching and burning of poison ivy dermatitis!

The same general plan should be followed as in the treatment of other burns, except that one step more is necessary—the careful and complete removal of all the "poison." The most common mistake is to apply an ointment or lotion directly over the area, without first properly cleansing it. To do this is to seal in the irritating toxicodendrol (the non-volatile oil of poison ivy), and make matters worse.

Treatment

First, carefully wash off the entire area with lukewarm or cool soap-and-water solution, using a soft cloth or cotton. Wash away from the body, so that new areas will not be exposed.

Second, cleanse the area thoroughly with alcohol (ordinary rubbing alcohol will do), using the above technic.

Third, dry carefully by patting with cotton.

Fourth, apply a thin layer of crystal violet jelly (Calco Chemical Co.) and permit it to dry, or hasten drying with gentle heat from a lamp. This will dry into a thin, flexible coating and give marked relief—assuming, of course, that all the poison has been removed.

The last medication may also be Butesin Picrate, Nupercaine ointment, or any similar analgesic ointment or lotion. Crystal violet jelly, although more expensive, gives more protection and obviates the need of a dressing.

Case Reports

Case 1: A girl of 23 years had been in the woods five days previously. After 24 hours, she began to notice itching of the right leg and knee. A physician was consulted, who made the proper diagnosis and prescribed calamine and zinc oxide lotion. After three days of applying this lotion, the girl was almost frantic.

On examination, it was found that the entire leg was studded with minute vesicles. Careful cleansing with soap and water, followed by alcohol, relieved some of the discomfort. Crystal violet jelly was applied, with almost complete relief of itching. As she lived in the southern part of the state, she was given more of the jelly, with instructions to wash off the coating over any area that might itch in 24 hours, and re-

apply the jelly. She wrote, a week later, that one small patch had troubled her, but subsided after the second application.

Case 2: A girl of 18 years had been picnicking in "shorts." Itching began shortly and became more intense. She was seen in 24 hours, at which time both legs and thighs were reddened, swollen, and covered with vesicles of various sizes.

The legs were scrubbed, but because of the patient's complaints on the application of alcohol, the cleansing was not so thorough as usual. Paraffin was melted and painted over the affected areas, in layers, with layers of cotton wadding interposed. Only moderate relief was obtained, and the patient was uncomfortable in the bulky, stiff paraffin "cast." The next day, crystal violet jelly was applied and the itching subsided.

Case 3: A boy of 18 years—a CCC enrollee—complained of burning and swelling of the inner surfaces of the thighs. Two mornings previously, while working in peat, he had noticed some itching. Several hours later, "Dieselfuel" had been spilled over the front of his overalls. That night, the burning appeared for the first time. The camp physician applied zinc oxide ointment, without listening to the patient's history (a sweet foretaste of State Medicine!). In the next 36 hours, the boy could not sleep or work because the burning was so severe.

A roughly oval area on the opposing surfaces of each thigh was intensely swollen and covered with fine, closely-aggregated vesicles. The edge of this area was sharply demarcated and firm, being elevated 1/10 inch above the level of the surrounding normal skin. Erysipelas might have been suspected, had not the lesions been symmetrical and the temperature normal.

The patient thought the dermatitis was due to peat. Such a cause seemed improbable, as he had been working in it for two months. On inquiry, it was learned that he had been wearing new overalls, thus raising the question of a dye dermatitis. He did not remember about the gasoline derivative being spilled on him, until after much questioning. The combination of an irritating liquid and friction by the trouser legs on the delicate skin created a chemical burn, aggravated by trauma.

The treatment described above was carried out, after removal of the zinc oxide ointment, and gave much relief.

Case 4: For contrast, I will recite a case treated with a commercial poison ivy lotion.

A woman of 44 years came in for treatment as soon as the pruritus began. She was given the lotion and told to apply it gently every four or five hours. It was one week before it was possible to stop the use of the lotion (alcohol and ferric chloride), and relief was never complete.

In every case in which it has been faith-

fully carried out, the treatment here outlined has been effective. For first- and second-degree burns, the surface may be cleansed with ether, which is cooling and very agreeable to the patient. The jelly should be reapplied twice daily until the firm, flexible coagulum completely protects the burned area. Brilliant green¹, applied twice daily, will give the same type of coating, but is said to be more antiseptic.

The standard treatments for ivy poisoning are: (1) Oxidizing agents, such as 2 percent potassium permanganate solution, hydrogen peroxide, or a solution of chlorinated soda²; (2) solutions of metallic salts, such as one part tincture of ferric chloride to two parts

of water, or a saturated alcoholic solution of lead acetate. The precipitate must be removed, as it decomposes, slowly releasing the poison; (3) protective agents, such as a paraffin dressing, calamine lotion (crusts should be removed with oil, not water), or zinc stearate dusting powder.

Beckman³ mentions zinc sulphate solution (10 grains to 1 ounce—0.65 Gm. to 30 cc.) and says: "All irritation, or even eruption, can be prevented by using it immediately. For later treatment, use in half strength."

1.—Narant, Joseph K.: Treatment of Burns with Brilliant Green. *A. J. Surg.*, 36: 54-57 (April), 1937.

2.—Fantus, Bernard: "The Manual of Therapeutics and Materia Medica," Merck & Co., 1934; p. 570.

3.—Beckman, Harry: "Treatment in General Practice," W. B. Saunders & Co., 1930; p. 703.

Arachnidism, "Black Widow" Spider

By J. C. Drake, M.D., Kerman, Calif.

ARACHNIDISM, or *Latrodectus mactans* poisoning caused by the bite of the "black widow" spider, requires immediate treatment, on account of the intense suffering and total disability which it produces.

According to Taylor,¹ the venom appears to have the characteristics of a toxin, being destroyed at 70 degrees C., and forming an antitoxin. It is a non-hemolytic neurotoxin, according to those who have studied it. The venom from a single spider has killed a cat in three minutes. It appears to be definitely toxic by mouth, Coleman having taken minute doses of it, mixed into powders with milk and sugar, and after three days developing bradycardia, slight fever, headache, dilated pupils, clonic spasms of the muscles of the chest and abdomen, and anginoid pains.

Gilbert and Stewart² state that the active principle of the venom has not, as yet, been definitely determined, but, as to its mode and place of action, it is quite generally accepted that the toxin directly stimulates the myoneural junctions or that it acts on nerve endings.

During the past eighteen years I have treated an average of six cases a year. Last year (1935) I treated nine, four of these being in the month of September, and the last one on October 29. This year (1936), to date, I have treated five cases.

In the majority of the cases that I have treated, the victim, usually an adult Mexican, came to me between the hours of 9 P.M. and 8 A.M., giving a history of having felt a sting or bite on the genitals while seated on an out-door privy. I have treated three females, two of whom were bitten on the genitals, and one on the buttock, while occupying such a place. Others gave a history of having awakened in the night with severe pains in the limbs, abdomen and chest; some

of having found the spider in the bed; others of having been bitten on the foot while pulling on a shoe.

Symptoms

The gait of the victim is almost characteristic, and at times one can make a diagnosis by observing this before talking to him. He is bent over forward, with hands folded on the abdomen; the body sways from side to side as he walks; his feet drag on the floor; he moves slowly and groans, on account of the severe pain.

The usual complaint is that the pains, light and cramp-like at the beginning, first appear in the muscles of the lower abdomen and gradually ascend to the upper abdomen and finally to the muscles of the chest, becoming very severe, and by this time have also descended to the legs. If the case has progressed long, the patient sweats profusely; the pulse is slow; he is restless and anxious; the abdomen is rigid; there is no nausea nor local tenderness.

Inspection reveals little, but if the patient is seen early one may observe a pin-point-sized red area at the site of the bite. At times it is impossible to see the lesion. I think that this is very characteristic of the "black-widow" spider—it leaves no trace of the bite. At times there may be a slight stinging or burning sensation.

It is important, in the differential diagnosis, to distinguish arachnidism from the "acute surgical abdomen." The chief points here are the pains, which are slight at first, but gradually increase in severity, first in the lower abdomen, and gradually ascend to the upper abdomen and chest and descend to the legs and feet; the absence of local tenderness; the slow pulse; and the absence of any condition predisposing to a surgical emergency.

Treatment

Until recently the treatment has been largely symptomatic, large doses of opiates being needed to relieve the pain. I have used almost everything that has been suggested—magnesium sulphate, spinal puncture, etc.—but the results have not been satisfactory. At one time I used large doses of benzyl benzoate, and also the stearate, and noted that it gave some relief and seemed to shorten the duration of the attack, though one would not expect much from it.

In 1935, Gilbert and Stewart,² in a preliminary report, stated that they had good results with calcium salts, given intravenously. Recently I have been using this treatment and have also had good results. Physiologists tell us that calcium exists in the blood serum in forms which are diffusible and nondiffusible, and that the blood plasma and serum calcium values are usually equal, the corpuscles containing very little, if any, calcium. The serum calcium varies normally, in adults, from 9.2 to 11 mg. per 100 cc. of blood.

Writing on "The Additive Effects of Calcium and Digitalis," Bower and Mengle⁴ state that calcium, given intravenously, will kill a digitalized patient, and report two cases of death following this combination. They state that calcium may produce a varying cardiac response, depending on existing circumstances, and that its action is affected, not only by the state of cardiac musculature, but also by the earlier administration of other drugs. Furthermore, when calcium is employed beforehand, the action of the other drug may be modified.

They also state that calcium gluconate, which was presented as an improvement over the chloride and lactate, is not so irritating as calcium chloride and is much more effective than calcium lactate. The anion, gluconic acid, is easily destroyed by the body, being converted into dextrose. It requires very large amounts to cause toxic symptoms and,

because of its apparent harmlessness, it is recommended by the manufacturers for oral, intramuscular, and intravenous use. They point out that the effect following the intravenous injection is almost instantaneous—a hypercalcemia which lasts for some hours—after which the blood calcium gradually returns to its former level. They list no contraindications. They report two cases of death following the intravenous use of calcium, "because of our conviction that there are definite contraindications to the use of calcium intravenously."

Bower and Mengle⁴ state that physiologists and pharmacologists have long known that an excess of calcium ions slows the heart rate and that large doses will stop the heart in systole, and that Arnold Lieberman reported the digitalis-like effects of calcium gluconate and cautioned against its intravenous use.

From experimental work they sum up as follows: "(1) Two deaths occurred following the intramuscular administration of digitalis and the intravenous injection of calcium gluconate or chloride; (2) the manufacturers of calcium gluconate or chloride should preface their literature with a warning relative to the additive effect of calcium and digitalis, when given simultaneously."

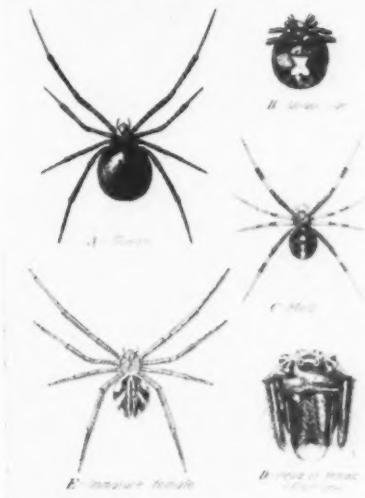
From these statements one might conclude that the few deaths reported following the "black-widow" spider bite occurred, not from the poison *per se*, but from some type of synergistic action.

I shall report a few cases of arachnidism, treated with the calcium salts.

Case Reports

Case 1.—E. V., Mexican, male, age 35, a grape picker, came to my office at 4 p.m. on September 15, 1935, with a history of having felt something like a thorn prick the skin of the right thigh about 11 A.M. He scratched the part and paid little attention to it. Soon he felt it again, but higher. This happened four times in all; the last time he crushed something with his hand. About one hour later he began to have pains in the lower abdomen,

THE BLACK WIDOW SPIDER



© Keystone View Co.

Fig. 1.—(A) Female; (B) Under Side; (C) Male; (D) Head of Female (Front View); (E) Immature Female.

which gradually increased in intensity and later ascended to the upper part of the chest and descended gradually to the legs.

As he entered the office he had the characteristic gait, was sweating profusely, and in severe pain. He stated that he did not look for a spider, as he did not think of that. He was given 10 cc. of calcium chloride solution in the vein, and before one-third of the dose had been given he stated that there was no pain, and after all had been given he felt like going to work.

Advised to go home and retire, he did not do so, but worked. Soon his pain returned, and he reentered the office with more pain than he had when he first entered. He was placed in the hospital and given 10 cc. of calcium chloride intravenously and 1/20 grain (3 mg.) of Dilaudid. Soon he was free from pain and remained so, and next day was discharged. The following day he returned for a check-up, and stated that he had some pain in the lower limbs and the soles of the feet. Two days later he returned and stated that he was free of pain and that it seemed to leave by going out at the bottoms of his feet, as he felt the pain there last.

Case 2.—Miss L., age 15, came to my office at 2 P.M. on September 18, 1935, with a history that, while picking grapes, she felt a sting on the left thigh at 9 A.M. Two hours later she began to have severe pains in the lower limbs, which finally reached the upper abdomen and chest. Given 5 cc. of calcium chloride solution intravenously, and 1/20 gr. (3 mg.) of Dilaudid, the pain ceased at once. She was advised to remain in bed with hot packs to the abdomen and chest.

At 7 P.M. she returned to the office and stated that the pains returned about 4 P.M. Ten (10) cc. of calcium gluconate solution was given intramuscularly, in the gluteal region, and the pains ceased soon afterward. She had no more pain and returned to work three days later.

Case 3.—Mrs. S., age 41, Mexican, came to my office at 10 A.M. on September 26, 1935, saying that, while in bed at 9 P.M., she felt something crawling on her forehead. It was found to be a black spider, which she crushed with her fingers, and which bit her before she could remove it. She felt a slight stinging pain one inch above the right eye. Inspection revealed nothing. She complained of pains over the right side of the face, which began about one-half hour after the bite. She stated that she drank a large quantity of milk. The pains did not reach the chest nor the abdomen.

She was given 5 cc. of calcium gluconate solution by vein, and 5 cc. in the muscle, and was advised to keep hot packs on the face. She did not return, but, seen a few days later, she stated that she had no more pain after she left the office.

Case 4.—Mr. M., age 43, white, came to my office at 1 P.M. October 29, 1935, with a history of having been bitten on the right leg, just above the knee, at 8 P.M. the day before. Within thirty minutes he was having severe pains in the back of the knee, which finally reached the inguinal region and an hour later were universal. There was no vomiting. When he came to the office he was sweating pro-

fusely and was in severe pain all over the body.

He was given 5 cc. of calcium gluconate solution by vein and same amount in the muscle, and 1/20 gr. (3 mg.) of Dilaudid, and placed in the hospital, with orders for hot packs to the abdomen and chest, epsom salts, and an enema later. Soon he was free from pain and remained so for twelve hours. Then he began to have pains in both lower limbs. He was given the calcium again, as before, and was soon free from pain. Later the pain returned to the right leg only, but there was a tingling in the bottoms of both feet. For three days he was kept in bed and given codeine. At the end of this time he was free from pain, but stated that he felt weak and that the pain seemed to go out through the bottoms of the feet.

Case 5.—M. A., Mexican, 25 years of age, male, first seen on May 27, 1936, came to my office at 7 A.M. with a history of having been bitten on the scrotum about 1 A.M., when he visited an out-house. An hour later he was having pains in the legs and abdomen. These became severe, and he states that he stood it as long as he could. The pulse was 72; the abdomen very rigid, but not tender. On account of the extreme rigidity of the abdomen it was thought possible that there might be an acute surgical condition. He did not see the spider, but the history of having been in the out-house and of having felt the bite; the normal pulse; the character of the pains (onset gradual, ascending to the chest and descending to the legs); no vomiting; the sweating; and no previous complaint, suggested that the condition was arachnidism.

He was given 10 cc. of calcium gluconate solution by vein, and 1/20 gr. (3 mg.) of Dilaudid, and placed in the hospital. He was given 10 grains (650 mg.) of calomel, followed by an ounce of castor oil, and later was given an enema. Soon after the injection of the calcium he was free from pain and remained so, and was discharged the next day.

Case 6.—R. E., Mexican, male, age 39, came to my office at 11 P.M. May 29, 1936, with pains in the chest and abdomen, and stated that he went to bed about 9 P.M. and was awakened two hours later with severe pains and cramps in the chest and abdomen. Examination showed the characteristic gait, profuse sweating, intense suffering, especially on moving about, partial paralysis of the lower limbs, and a rigid abdomen. There was no nausea or vomiting.

He was given 5 cc. of calcium gluconate solution in a vein, and same amount in the gluteal region, with 1/20 gr. of Dilaudid. He refused to enter the hospital, and when he left the office was free from pain. He returned at 8 A.M. next day, with the pains confined to the limbs, and asked to be sent to a charity hospital. I did not see him again.

Case 7.—Mr. G., age 58, was first seen on June 2, 1936, at his home. He gave a history of retiring at 9 P.M., and later awoke with severe pains over the entire body. On account of the character of the pains, the profuse sweating, and the characteristic gait, a diagnosis of arachnidism was made, and he was given 5 cc. of calcium gluconate solution

intravenously and 5 cc. in the gluteal region, with 1/20 gr. of Dilaudid, and was placed in the hospital, ordering the usual elimination. For two days he was free from pain except in the legs, and the profuse sweating continued. In this time he was given codeine for the pain. On the third day he asked to be sent to the charity hospital, but because the pain was nearly gone, he was advised to return home. He insisted and was sent, according to his wish. I did not hear from him again.

Case 8.—S. P., white, female, age 36, was first seen on August 14, 1936, at 7:30 A.M., with a history of having gone down into the cellar at her home and felt a bite on her left leg above the knee, at 6:30 A.M. She found a black spider which fell from her clothes when she shook them. This she brought with her, and it was seen to have the red diamond mark on its ventral surface. No complaints were made except of slight pain over the suprapubic area. She was advised to go home and return if any more pain developed. Two hours later she returned with pain over the abdomen, lower part of the back, and in the thighs.

She was given 5 cc. of calcium gluconate solution intravenously, and the same amount intramuscularly in the buttock, with 1/20 gr. of Dilaudid and the usual instructions for elimination. Visited at 8 P.M., she stated that the pains were gone before she reached home and was still free from them at the time of the visit.

Case 9.—W. K., age 30, Japanese, male, was first seen on August 30, 1936, at 3 P.M., with a history of feeling something on his right thigh while picking grapes. He thought this was a grape which fell under his overalls and he pushed it downward with his hand. He felt it bite again, and crushed it, and found a dead black spider. He cut the wound with a pocket knife and made it bleed, and then consulted me. He was having slight pain in the right inguinal area.

He was given 1/20 gr. of Dilaudid and 5 cc. of calcium gluconate solution intravenously, with the same amount in the gluteal area and the usual orders for elimination. He returned at 9 A.M. next day and stated that he had had no pain since the injections.

I treated this man in 1930 for a spider bite on his right toe, which he received while pulling on a boot. He was given morphine at that time and suffered no ill effects, other than slight pain at first. Two years ago I treated his wife for spider bite on the buttock, which she received while in an out-house.

Comments

In the summer of 1935, three suspects came to the office in one week. One, a girl of 2 years, was bitten on the anterior tibial region. There was a large red area resembling a

mosquito bite. The mother was worried, but I assured her that it was not a "black widow" spider bite, as that arachnid left no such mark as was seen on her child's leg. Some time later I saw the mother, and she stated that the baby had no pain from it.

Another was a boy with a history of a bite on the arm. It showed a marked red, raised area. I assured him also that it was not a "black widow" spider bite, as this spider left no mark like that. He remained at the office for two hours and there was no pain. Seen two days later, he stated he had had none.

Another was a man who was rushed to my office with a history of something entering his ear while pitching hay. Fellow workmen saw something black within the canal and suggested that it was a "black widow" spider. I extracted a small, black cricket.

Having used the calcium salts with good success in spider bites, I thought possibly they might be useful in cases of herpes zoster, so I tried them in three cases: One, a girl, age 8, was seen on September 17, 1935; another girl of 12 years, seen on September 19, 1935; and an adult male, seen on November 4, 1935. All had the typical eruption on the chest. Each was given calcium gluconate intravenously except the man, who received it intramuscularly in the gluteal area. There was marked improvement after two injections with the girls. The pain became less, and the rash disappeared more quickly. The man complained of the pain at the site of injection more than of the herpes, so I did not give him any more. I also used the calcium intravenously in an epileptic. The injections were given twice a week, and later only once. As long as this drug was given there were no attacks.

For getting rid of these spiders I have found a good fly spray will do the work. They will come out into the open for air very promptly, and will finally die.

When danger is near, these spiders can contract their legs and double up to the size of a small pea; expanding, they have a leg-spread the size of a dollar.

References

- 1.—Taylor, Frederick R.: Arachnidism and Its Treatment. *South. Med. & Surg.*, 95:443, August, 1933.
- 2.—Gilbert, Elmer W., and Stewart, Charles M.: Effective Treatment of Arachnidism by Calcium Salts. A Preliminary Report. *Am. J. M. Sc.*, 189:532, April, 1935.
- 3.—Beckman, Harry: "Treatment in General Practice," W. B. Saunders Co., 1934.
- 4.—Bower, J. O., and Mengle, H. A. K.: The Additive Effect of Calcium and Digitalis. *J. A. M. A.*, 106:14, April 4, 1936.

TRUTH

Truth is a great coquette; she will not be sought with too much passion, but is often most amenable to indifference. She escapes when apparently caught, but gives herself up if patiently waited for, revealing herself after farewells have been said, but inexorable when loved with too much fervour.
ERNEST RENAN.

PHYSICAL AND OFFICE THERAPY AND RADIOLOGY

Incorporating

The American Journal of Physical and Ambulant Therapy

ASSOCIATE EDITORS

FOR PHYSICAL THERAPY

FRANK THOMAS WOODBURY, B.A., M.D.
JOSEPH E. G. WADDINGTON, M.D., C.M.

FOR RADIOLoGY

HENRY SCHMITZ, M.D., F.A.C.S., F.A.C.R.
M. J. HUBENY, M.D., F.A.C.P., F.A.C.R.

FOR OFFICE THERAPY

RUSSELL A. WINTERS, M.D.

Internal Iontophoresis and Internal Iontotherapy In Chronic Gonorrhea and Strictures

By Hans Hirsch, M.D., Berlin, Germany

IN a contribution recently appearing in the *Wiener medizinische Wochenschrift*,¹ I presented new methods for the treatment of hollow organs of the human body—"internal iontophoresis" and "internal ionotherapy." These new forms of treatment will be described herewith in more detail, with drawings that delineate the principal differences between them and the hitherto medically employed "external iontophoresis" and "external ionotherapy." The description of the special technic of their application to the male urethra is a further aim of this study. I desire to establish in advance, that by "ionotherapy" I understand the simultaneous employment of the direct current and diathermy from the same electrodes, as carried out by myself,^{2, 3} and confirmed by Laqueur⁴, Fischer⁵, and Dörrfel⁶.

In external iontophoresis the arrangement of the electrodes is the same as that shown in schematic Figure 2; i.e., the cathode is in direct contact with the medicament. Hereto electrolytic cleavage products occur around the electrodes, as they also do in the arrangement shown in Figure 1 of the affected organ.

Still more pronounced is this in a usually employed variety of "external iontophoresis," as described by Boruttau-Mann⁷: The liquid, conducting the electric current, is introduced into the urethra by means of a perforated catheter.

Although the medicament is introduced into the urethra by means of the irrigation catheter, this arrangement nevertheless represents a modification of "external iontophoresis," in that the irrigation fluid, and therefore with it the urethral mucous membrane, are brought in direct association with one of the electrodes. The same relationships thus prevail upon the mucous membrane with respect to the cleavage of electrolytic products as in Figures 1 and 2. Entirely different are the relationships with "internal iontophoresis," as shown in Figures 3 and 4.

Figure 5 shows a combination of "internal and external iontophoresis." Hereto the iodine ions from the cathode, saturated with potassium iodide, migrate to the dorsal part of the circinate stricture, while from the urethra filled with potassium iodide solution, iodine ions also migrate to the ventral portion of the stricture.

If, for the purpose of increasing the therapeutic effect, diathermy is combined with the direct current from the same electrodes, by superimposing a high-frequency alternating current, a procedure results, which, in 1930, I designated as "ionotherapy."¹² As was brought out in this introductory work, ionotherapy offers the following advantages over simple iontophoresis:

1.—The body resistance to the continuous current, and above all that of the skin, is decreased by the warming from the diathermy.

2.—This occurs similarly from the influence of the hyperemia induced by the diathermy.

3.—The chemical, electric (ionization), as

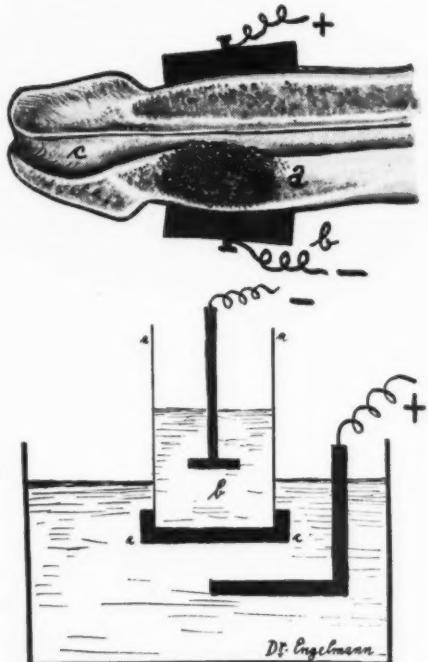


Fig. 1.—(Above) The application of "external iontophoresis" to a periurethral infiltration of the urethra: (a) Periurethral infiltration; (b) cathode saturated with potassium iodide solution; (c) lumen of the urethra.

Fig. 2.—(Below) Schematic drawing of "external iontophoresis": (a) Glass cylinder; (b) potassium iodide solution; (c) membrane.

well as the osmotic actions induced by the continuous current are facilitated and accelerated by the increased temperature.

4.—The depth of action from the medicaments introduced is improved, and their quantity increased during the same period of time and with the same current strength.

The clinical observations corresponded with the previously discussed theoretical analysis. The variation of "external iontophoresis" by means of a perforated catheter, according to Borutta Mann,⁷ has not proved successful in my experience. With it, irritation to the patient frequently occurs, resulting in a change for the worse, probably as the result of electrolytic cleavage products. "External iontophoresis" according to Figure 1, as carried out by me, is a good method for the treatment of periurethral infiltrations. "Internal iontophoresis," however, surpasses it in effectiveness as shown in Figure 3, being also suitable in the treatment of chronic gonorrhea of the anterior urethra refractory to

other therapy. I wish to re-emphasize the fact that the simultaneous employment of diathermy and the continuous current always improves the therapeutic effect.

Technic for the Application of "Internal Iontophoresis" and "Internal Iontothermy"

The urethra is filled with the medicinal solution by means of a urethral syringe; for example, in chronic gonorrhea, with a solution of colloidal silver 1:1000; in strictures and periurethral infiltrations, in the cicatricial stage, with a 1/2-percent potassium iodide so-

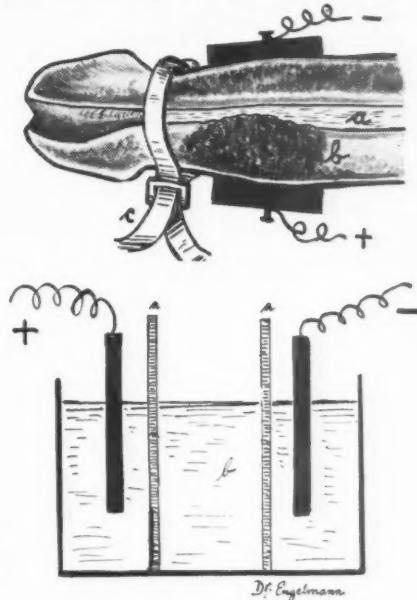


Fig. 3.—(Above) Application of "internal iontophoresis": (a) Lumen of urethra filled with potassium iodide solution; (b) periurethral infiltration; (c) penis clamp. The same conditions are present as in electrodiagnosis, shown schematically in Fig. 4.

Fig. 4.—(Below) Schematic drawing of electrodiagnosis. No decomposition of the solution by the direct current results in the central cell; no liberation of uncharged atoms, molecules, and electrolytic cleavage products; but only a migration of charged, therapeutically effective and non-irritative ions. (Also to be noted is the varied polarity of the direct current, as shown in the illustrated technic of application of "internal and external iontophoresis".)

lution. Then the meatus is closed with the thumb and index finger, or with a suitable penis clamp, the surface of which must be insulated.

Still better, in chronic gonorrhea, than the filling of the urethra with a liquid, has been the introduction of a 0.2-percent Pyridium bougie. These bougies were prepared according to my specifications and placed at my disposal by the firm of C. F. Boehringer, of Mannheim-Waldhof, for which thanks are herewith expressed. The bougies, which have a selective melting point that permits their

melting almost completely during treatment, are introduced into the urethra and kept in position with a pledge of cotton.

In chronic gonorrhea, when a circumscribed pathologic area cannot be determined, the dorsum of the penis is laid upon the abdomen, and a wrapped zinc plate, satur-

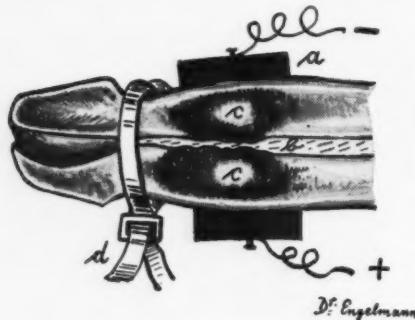


Fig. 5.—Application of "internal" and "external" iontophoresis to a ring stricture of the urethra: (a) Cathode saturated with potassium iodide solution; (b) lumen of urethra filled with potassium iodide solution; (c) circinate stricture; (d) penis clamp.

ated with salt solution, upon the ventral side of the penis as an active electrode; then a second electrode, connected by a double cable with the same pole, is placed upon the perineum. The patient is seated upon a large wrapped electrode, which serves as an inactive one (see Fig. 6). In periurethral infiltrations, a small plate, according to the size and location of the area to be treated, is placed upon the dorsal or ventral side of the penis, or circularly around it.

The poles of the direct electric current are applied in accordance with the migratory tendency of the medicament which is to be injected into the urethra or introduced therein by means of bougies, as for example, with the potassium iodide, the positive pole for the penis electrode; with Pyridium, the negative pole. The strength of the direct current is from 2 to 10 milliamperes, according to the size of the active electrode employed; that of the diathermy current is from 0.1 to 0.3 amperes. The duration of treatment is from 10 to 30 minutes, 2 or 3 times weekly, for from 10 to 30 sessions.

The following case histories serve to illustrate the effect of the new method:

Case Reports

Case 1:—Patient H., 45 years old, came under treatment November 20, 1934, for acute gonorrhea, with cloudy first and second urines and diffuse swelling of the prostate. After the prostatitis and posterior urethritis had been cleared up with the usual remedies, such as bladder irrigations, Guyon sounds, massage of the prostate, and vaccines, the anterior lesions would not heal despite intensive treatment with irrigations, dilatation accord-

ing to Kollmann, etc. Gonococci persisted to the extent of four plus.

On February 14, 1935, treatment by means of internal iontotherapy, with Pyridium bougies, was begun. On March 9, 1935, after six such treatments, examination for gonococci was negative, and remained continually negative, after provocative measures. The patient was discharged, as cured, on March 30, 1935.

Case 2:—Patient K., 40 years old, when presenting himself for treatment on March 4, 1936, had been under medical care elsewhere for six months. The first urine was cloudy; second urine, clear; prostate, negative. Numerous periurethral infiltrations of the anterior urethra, from the size of a pinhead to that of half a pea, were present. Urethral injections, vaccine therapy, and linseed poultices to the penis were applied. In addition,

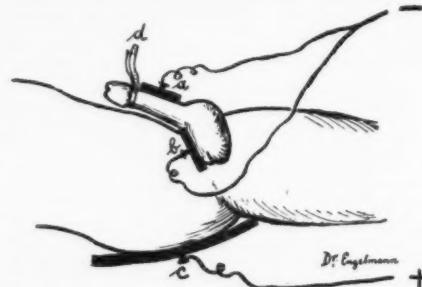


Fig. 6.—Arrangement for combined "internal iontophoresis" and "internal iontotherapy": (a) Active electrode on the ventral side of the penis; (b) active electrode on the perineum; (c) inactive electrode; (d) penis clamp, closing the urethra, which is filled with a solution of colloidal silver or a Pyridium bougie.

diathermy was applied to the infiltrations, at first from the external surface of the penis, later from a urethral sound. The infiltrations receded; the first urine became clear, with shreds present; yet, on April 17, gonococci were still present.

On April 22, the first internal iontotherapy treatment of the urethra with Pyridium bougies was given. After three treatments, on May 6, examination for gonococci was negative, and the nodules in the urethra, which were distinctly palpable before these treatments, had been reduced to residual small, hardly-palpable indurations. On May 15, examination for gonococci was also negative, and the area occupied by the periurethral infiltrations, extending to the site which had been occupied by the largest infiltration, and which still felt somewhat indurated on the sound, showed no remaining palpable evidences.

Case 3:—Patient G., 42 years old, with gonorrhea of the anterior urethra, showed small, pea-sized infiltrations in the center of the penis. After months of treatment with all possible methods, including diathermy and iontotherapy with potassium iodide solution externally, examination for gonococci was negative before and after provocative stimulation. Although the periurethral infiltration

was reduced one-half in size, it was still distinctly palpable from without, as a hard, cicatricial area.

On September 20, 1934, internal iontotherapy was begun with potassium iodide solution. On November 12, 1934, after 14 treatments, the cicatricial area was reduced to the size of a millet seed. As a further removal of the remaining periurethral infiltration apparently was not possible, the urine being free of pathologic constituents and the patient without any discomfort, the treatment was discontinued.

On August 10, 1935, the patient again presented himself. The small scar at the site of the former infiltration had not changed. As the urethra did not show any signs of stricture and the patient was free of discomfort, further treatment was not considered.

In three patients with strictures of the anterior urethra, in whom bougie treatment was fortified, at first with external iontotherapy, then, after dilatation of the strictures up to a 15 Charriere size sound, with combined internal and external iontotherapy, employing potassium iodide solution for filling the urethra, I had the distinct impression that the strictures were more quickly softened than by the use of bougies alone, whereby rapid progress was attained.

Summary

1.—"Internal iontophoresis" and "internal iontotherapy" represent new methods, by which medicaments within a hollow human organ—in this case the urethra—are subjected to the influence of the direct electric current, whose effect, in case of iontotherapy, is reinforced by the diathermy current.

2.—The arrangement of the electrodes as in electrodialysis; i.e., outside of the central cell transmitting the medicament, brings the introduced remedy closer to the pathologic focus, and the occurrence of electrolytic cleavage products, harmful to the diseased focus, is prevented.

3.—The combination of "internal" and "external iontophoresis," as shown in Figure 5, furthermore strengthens the action of one of the two procedures, as by means of this arrangement the conduction of medicaments to the treated areas (for example, in the case of a circinate stricture) can be accomplished from within or without.

Bibliography

- 1.—Hirsch, Hans: Die Jontophorese der mit medikamentöser Flüssigkeit gefüllten Harnblase bei chronischer Zystitis. *Wien. med. Wchnschr.*, 86, 1113-1115, Oct. 3, 1936.
- 2.—Hirsch, Hans: Über Jontothermie. *Med. Welt*, 4, 1594, Nov. 1, 1930.
- 3.—Hirsch, Hans: Jontothermie, eine neue Behandlungsart der chronischen Prostatitis und Spermatozystitis. *Dermat. Wchnschr.*, 93, 1778-1782, Nov. 14, 1931.
- 4.—Laqueur, A.: Perkutane Therapie. "Neue Deutsche Klinik II." Berlin. Urban u. Schwarzenberg, 1934, p. 271.
- 5.—Fischer, Alfred: Ein Beitrag zur Behandlung der Cavernitis chronica urethrae. *Zeitschr. f. urol. Chir.*, 40, 63-69, Aug. 22, 1941.
- 6.—Dörffel, J.: Komplikationen der Gonorrhoe posterior. J. Jadassohn, "Handbuch der Haut u. Geschlechtskrankheiten XX, I." Berlin, Springer, 1934, p. 523.
- 7.—Borutau-Mann: "Handbuch der gesamten medizinischen Anwendung der Elektrizität. II." 2 Leipzig, Dr. W. Klinkhardt, 1911, p. 979.
- 8.—Hirsch, Hans: Behandlung periurethraler Infektionen mit Jontophorese und Jontothermie. *Wien. klin. Wchnschr.* 43, 1347, Oct. 30, 1930.
- C. 25.
Gontardstrasse 5.

NOTES AND ABSTRACTS

Radio Fever

THE nosology of one period or age often differs materially from that of succeeding ages. Seventy-five years ago physicians had to contend with diseases which today have either been totally eliminated or largely controlled, so that their occurrence now in any community is regarded as a reproach, due to culpable neglect of recognized sanitary principles. The records of that period (the time of the Civil War) abound with references to hospital gangrene, typhoid fever, epidemic typhus fever, army dysentery, cholera morbus, Asiatic cholera, puerperal sepsis, yellow fever, pernicious malarial fever, smallpox, scurvy, and the like. The occurrence of any of these conditions today, in epidemic form or other than as mere sporadic cases, would at once

arouse criticism, both in scientific circles and among the people at large.

Other pathologic conditions are rapidly passing into the same class of obsolescent disease. For instance, it is probable that a new toxoid for immunization against tetanus, now under laboratory observation, will still further relegate that dread disease to the background, according to a recent statement made by Colonel E. R. Gentry, of the United States Army Medical Corps. The notable advance in bacteriology since the World War, two decades ago, has largely brought under control some of the germs which caused such devastation in the armies of that great conflict, notably the gas bacillus, which proved so deadly then; while trench foot and typhus fever have been largely abolished through

the fight, which army surgeons instituted at that time, against the bacilli and lice.

On the other hand, the remarkable development of science in all its lines during the past fifty years has been responsible for the recognition or appearance of new and hitherto unknown pathoses, which in their turn have been, or must be, met by measures arising from the newer medical science. Thus, the advent of the x-rays gave rise to a malignant form of dermatitis and cutaneous cancer, which caused great suffering and death until the roentgenologists learned to protect themselves and their patients from the deleterious action of these rays. Psittacosis or parrot disease, undulant fever, tularemia or rabbit disease, and uncinariasis or hookworm disease, are conditions, all comparatively recently recognized, which were totally unknown to the profession of the Civil War time. These newer pathoses are being controlled mainly through the notable advances made in bacteriology, a science which itself originated in the early eighties, largely through the progress made in microscopy at that time.

A remarkable development in this era of remarkable developments is the use that is being made of fever, itself a pathologic condition, to combat and destroy other diseases of a more serious nature. In this connection, the radio, the most astounding discovery of this incredible age, has now entered the field of medicine as a benevolent factor, mainly as the result of the discovery of a scientist who is not a medical man, Dr. Willis R. Whitney, a chemist and electrical research investigator. This scientist noticed that a group of his assistants employed in studying the short-wave radio were complaining of a sensation of internal warmth. Physical examination showed that all these men were running temperatures reaching as high as 102° F. When they were removed from the range of the radio, the fever quickly disappeared, leaving no deleterious effects. Further studies by Dr. Whitney showed that the fever produced by the radio was most pronounced within a limited range of radiation; namely, those rays between six and sixty meters wave-length.

It was but a step further to determine the physical limitations of this thermic phenomenon. It was soon discovered that only those substances which contained electrolytes became warm—that is, these substances were conductors of the radio waves; while non-conducting substances, such as distilled water, showed no increase in temperature. A glass

plate, itself also a non-conductor, did not become heated; but meats, eggs, sausage, and popcorn, laid upon it and subjected to the action of the radiation, were soon cooked. This phenomenon explained the occurrence of the fever in the laboratory workers. The blood corpuscles floating in the blood serum are excellent electrolytes, as is also the blood serum, and when they were agitated by the passage of the radio waves through the serum they became heated and the fever resulted. Thus, it became definitely known that the human body is a great electrolyte.

The practical application of this knowledge is evident. If, for instance, malarial fever is destructive to the spirochete of syphilis, why should not fever otherwise produced be equally destructive to the syphilitic germs? In other words, is it necessary to introduce into the body one pathogenic germ in order to destroy another pathogenic germ pre-existing in that body? That is, did the favorable action result from a battle between the pathogenic germs, or was it the result only of the heat produced by the malarial paroxysms, the spirochetal existence being incompatible with the increased body temperature? It was soon appreciated that the heat alone was the potent element.

Whitney then made the further suggestion that body heat produced by radio waves might prove serviceable in destroying or breaking down undesirable chemical substances in the body. To make a long story short, this has been accomplished. Calcareous deposits around joints, in bursal walls, and along nerve and muscle sheaths have been dissolved by repeated applications of radio heat to the affected parts; and the startling suggestion has been made that the same use of radio heat may prove efficacious in absorbing the lime deposits in the walls of blood vessels, which constitute the serious condition known as arteriosclerosis. Is it possible that the advent of the radio has opened the way to the cure of this disease, which is the bane of advancing age and the cause of a tremendous human mortality? Atheroma, aneurysm, apoplexy—are they about to be conquered by the proper use of radio fever?

W. A. N. D.

Treatment of Ganglion

AGANGLION is a cystic, benign tumor, filled with mucoid material, usually surrounded by a thin wall and occurring in the region of joints and tendons, as on the

wrist, fingers, and feet. If the ganglion can be made prominent, as on the dorsum of the wrist, it may be ruptured by striking it with a heavy book (bound edge). Aspiration is futile.

Removal of the growth may be carried out under Novocain (procaine) infiltration anesthesia, and with strict aseptic precautions, in the office. Where possible, use a tourniquet, such as a blood pressure apparatus band, to produce a bloodless field. The sides of the wound are retracted and the ganglion is separated from the surrounding tissue by blunt and sharp dissection. If the capsule of a joint or a tendon sheath is opened, it is carefully closed with fine, interrupted sutures of silk.—R. H. DEORSAY, M.D., in *A. J. Surg.*, April, 1937.

Studying X-Ray Films

FOR more than a year I have been studying my roentgenographic films with a handy little portable device known as the x-ray Stereo-Mirror, which gives a brilliant, uniformly enlarged image of any part of a single film, or of illustrations in books and radiologic journals. With a little practice, one can even get some degree of stereo effect from a single film. The Stereo-Mirror can also be used to obtain a reduced image on an entire large film.

With a pair of stereoscopic films, this small apparatus gives a complete stereo effect, as good as that obtained by the large, expensive apparatus in general use. The two films are placed side by side, instead of opposite to each other. If two stereoscopic pairs are to be compared, they can be placed one above the other and examined with great accuracy, without the trouble and memory effort required when the conventional stereo-box is used and the films have to be changed so that they are seen in succession, instead of simultaneously.

HARRY W. FLECK, M.D.

Bridgeport, Conn.

Erysipelas and Ultraviolet Treatment

IF a sufficient dose of ultraviolet rays is given in erysipelas, the improvement is spectacular. Discomfort is relieved, the temperature drops, and the lesion stops spreading. The beginning of improvement coincides with the development of the erythema, which occurs in from 2 to 8 hours following treatment. Isolation is not necessary after 48 hours.—ANNETTE BIEKER, M.D., in *J. Fla. M. A.*, March, 1937.

NEWS



Courtesy of F. H. Sidney.

The Podiograph

THIS combination roentgenograph and fluoroscope was designed by Joseph Lelyveld, podiatrist, for the examination of the feet in motion. It shows the various movements of the feet, so that they can be seen by the patient, as well as the podiatrist. Pathologic conditions are recorded on x-ray films for further study, in comparison with the patient's feet. The machine operates on the usual electric current and may be used in an open room shaded from direct sunlight. It is especially useful in examining the feet of children, for the prevention of joint deformities and derangement of the bones and arches.

Physical Therapists to Meet

THE sixteenth annual scientific and clinical session of the American Congress of Physical Therapy will be held at Cincinnati, Ohio, September 20 to 24, inclusive, 1937. Full particulars may be obtained by writing to the offices of the Congress, 30 North Michigan Ave., Chicago, Illinois.

A LIVING FOR THE DOCTOR

(The Business of Medicine and the Art of Living)

The Truly Successful Physician

By Lawrence Greeley Brown, M.D., Elizabeth, N. J.

If there is any one thing physicians have in common, that one thing is the desire to succeed.

But success has a different meaning to different minds. To one man, it is the successful collecting of fees for services rendered, and in many instances, without due regard for the quality of the service rendered. To another, it is the acquisition of that kind of knowledge and skill that makes him an indispensable asset to his profession, to the community, and to society. We, as a profession, are not particularly concerned with the former type, but we are jealous to the point of anxiety lest men of the latter type lose their happy balance in the struggle for a comfortable existence. As a matter of fact, our efforts are concentrated on enlarging and broadening this type. The learned articles we read in our fine professional journals, along with our numerous professional societies, attest to this.

Medicine has been acclaimed the noblest profession on earth. It must be constantly borne in mind that it can be no nobler than the spirit and purpose of those who minister its benefits to those in need of them. Unless one is willing to assume, without mental reservation, the sacred obligation which embraces the high ideals, noble purpose, and humility, which actualize a noble profession, he should not enter this field.

In retrospect, the truly successful physician must be: First, an exemplar of those virtues which make medicine great; second, a serious and adventurous student; third, he should be a loyal and energetic member of the organized profession; fourth, a first citizen of his community. To the extent he fails in these demands, medicine fails to be the noblest profession on earth.

As an Exemplar: The esteem which the profession has earned for itself has come to it through the self-sacrifices and broad, humane feelings evinced by those who established medicine as a profession. We need to follow closely their footsteps.

As a Student: The physician must never cease to be a serious and untiring student. He must always seek to broaden the base of

his professional knowledge and develop keener powers of observation, ever looking for better methods, new truths, and new uses for the implements at hand. If he does not possess the capacity which enables him to make a contribution to the sum total of knowledge and scientific achievements which have been developed through the years, he, at least, should be a healthy and dependable medium through which these achievements may be projected into the present and sustained for the future.

Too many young physicians seem to think that surgery is the only thing in the field of medicine worth striving for. This, in spite of the fact that surgery, at best, is only a corrective, when the nobler attempt is to prevent the acquisition of disease. Individual fitness for this latter art is receiving but scant attention. Everyone knows that one cannot make a virtuoso out of the greatest lover of music if he does not possess the innate ability to control his motor system, no matter how much he may be able to learn about music. Then, too, it is apropos to point out that the widespread use of electricity, radium, and the numerous other physical agencies, coupled with our better understanding of the composition and functioning of the endocrine glands, with the extracts now being made from them, the continuous growth of chemotherapy and the broader application of parenteral therapy, all operate to greatly reduce the necessity for surgical intervention, even though the field of surgery has been broadened to include some diseases that were once considered purely medical—the surgical treatment of tuberculosis, for example.

We must remember that surgery has mortality statistics to explain, and even morbidity statistics. The psychiatrists tell us that the army of neurotics include many who had yielded to surgical advice for a cure of their malady. But we need not call on the psychiatrists, we need only consult our own records (if we are energetic enough to keep any), and if my records may serve as an index, there are thousands of invalids in our different communities who hold a justifiable grudge against what someone was pleased to call surgery.

Let me not be misunderstood. I am not attempting to belittle nor cast any reflection on the art of surgery. I know too well the great accomplishments of this art in saving life and correcting the mistakes of nature; but I wish to point out and emphasize that there are other noble fields in medicine, to which any of us can address ourselves with profit and distinction.

It appears to me that our greatest field for good lies in our abilities to prevent, rather than attempt the correction or curing of disease. Unlike surgery, preventative medicine has no mortality nor morbidity statistics to explain, except those that come from the inaction on the part of the public being served; and this is no basis for criticism of preventative medicine as such, but a criticism of the mental and social attitude of those who have depended on medicine for the eradication of all of their physical ills throughout the past several centuries.

Why has surgery made such a strong appeal to the young physician? The answer to this question is the emphasis our hospitals have placed on this division of medicine for the past quarter of a century and more. As against this, few provisions were made for the preventative side. The operating room with its rigid decorum (of course, as it should be), the distinguished looking and learned surgeons, the attempting of the novel, the awe of the nursing staff toward the operating surgeon, all combine to furnish a glamour which appeals strongly to the developing mind.

We all seem to have something in us that likes to be honored. The desire to do surgery under such auspicious circumstances might well be a normal reaction. Is it not time that we emphasize what preventative medicine is capable of doing? Should we not spend more of our energies in trying to make this division of medicine equally and even more attractive than surgery?

The number of misfits in our population is legion. This liability on society is a challenge to our noble profession, and a rich and waiting field for the young man to begin his work. If medicine can rid society of these misfits, it will earn for itself the everlasting gratitude of the sane among us.

This leads us to the consideration of what has been a neglected field—mental hygiene. We properly strive to wipe out cancer, tuberculosis, and heart disease; yet these physical disabilities are no more important to the welfare of society than the imbeciles, feeble-minded, and ne'er-do-wells in our population. There can be no happy home where one of these unfortunates is present.

Is birth control the answer? I am convinced that, with a determined attitude on our part, with rational methods, much can be accomplished. The successful practitioner is

he who succeeds in reducing these hazards to an irreducible minimum. Obviously, this is an opportunity for the serious and the adventurous.

As a Member of the Organized Profession: As the organization of medicine is the vitalizing stream of life for the balanced growth of the physician, no physician can wall himself off from it without bringing on himself stagnation of thought and professional decay, with all the incompetence these symbolize.

The first duty of a physician, once he has acquired his license to practice, is to connect himself with the organization of medicine. He should be a member of his County Society, and as many special societies as his time and competence will permit. He should not be content with the mere payment of dues, but should put his energies and thought into the organization, with the determination of strengthening it where it is weak.

There are, no doubt, defects in the organized profession which should be corrected, and we all look forward to the time when our organization will be as perfect as the human mind is capable of making it. The destiny of medicine should be in the hands of the physicians, but unless we give Organized Medicine our energetic and loyal support, along with all the constructive thought we have in us, there is danger of our destiny being controlled by other forces which are unfriendly to us as a professional group.

Today, membership on the staff of a hospital has become practically a necessity, and each physician should strive for membership on the staffs of as many hospitals as he can find time to serve.

The growth of medicine, in the past two decades, has made it impossible for any one mind to cover the whole field with equal proficiency. The best one can hope to do is to become thoroughly familiar with some branch, and know as much of the other branches as one's capacity will permit one to absorb. Obviously, we have not given a patient all the profession has to offer until he has had the best thought in the whole field of medicine. This means more consultations and more group work than was necessary in the past; and unless there is a fine fraternal spirit among physicians, which can only come from the healthy association that is best provided through the medium of the hospital, we destroy the very objective toward which we are expected to be striving.

As a First Citizen: Of course, one who holds membership in the noblest profession on earth could be nothing less than a first citizen. Being a physician does not take from him any of his rights as a citizen, and he is at liberty to use his talent in whatever way he feels that he can to improve the environment. As a matter of fact, he owes it to him-

self to make a better environment than the one he found at the beginning of his journey as a practitioner of the healing art. It is advisable that he take an active part in those civic affairs that promise to make his community a better place to live in.

As a last word, let me point out that physicians need to be ultra-conservative in their

remarks about each other to the laity. Each fault one finds, each criticism one makes about another practitioner is a boomerang, for it knocks at the heart of that nobility which we would like to have the public feel is the exclusive possession of our noble profession.

173 Madison Ave.

NOTES AND ABSTRACTS

The Art of Speaking*

GOOD speakers are made, not born. With-out exception, they like to talk and know the rules. All of them realized early in their careers that if they wanted to make good speeches they had to make an effort to do so. They never stop experimenting with their technic, because good speech is an art which can be developed. Physicians must be prepared to express their ideas to others. As with other professional groups, we have a considerable number of good speakers, and those who do not do so well. If anyone has any reason to doubt his speaking ability, he should first admit his deficiencies and then try to correct them. As a general rule, the better the speaker the more conscientious he is in attempting to improve his speech. Some of the suggestions which follow may be helpful—at least, I have found them so.

The subject of a talk is most important. When you are invited to speak, it is assumed that you have something to offer. The same is true if you request an opportunity to be heard. It is best to select a simple subject upon which you have a certain amount of information.

Every speech should have a purpose. After you have selected your subject, being guided by the type and interests of your audience, write down in a few words the reason for your selection. Just because you have observed something which is uncommon in your experience is a very poor reason for giving a talk. The best subject for the average man to attempt is some common condition. In it, he should correlate his own experience with that of others. It is assumed that his audience knows a considerable amount about his subject. His hope is to bring their knowledge up to date by various additions and subtractions to current concepts.

The next step is to outline your speech. Select from four to six points that you would like to make and stick to them. It is very disheartening to an audience to listen to a speaker try to condense everything known

about a complicated subject into a fifteen-minute period. After they have made their outline, some speakers write their entire speech at once. Most lecturers, however, find it more desirable to write their speeches after they have spent most of their time thinking over the points they intend to make.

Extemporaneous speech is the ideal form. The word is often misunderstood as it is confused with *impromptu* speech. Extemporaneous speech means "speech delivery out of the moment." It is thinking on our feet as the result of long and adequate preparation. It is not memorized speech. Preparing a speech is a thinking process of high order. It requires sustained effort and mental concentration. On rare occasions a manuscript should be read. Even though a manuscript is required for future publication, it is unfair to an audience to have them sit and listen to something which they can later read in a medical journal. We analyze an article when we read it, therefore the only reason for reading a paper in advance of publication is to attempt to give the personal touch to our views.

Most good speakers are not orators. They follow the conversational mode, which is effective speech in any situation. A person who is a good conversationalist, with very little change in his technic can become a good speaker. In conversation, we do not speak in a monotone or continue after it is very obvious that our listeners are becoming bored.

Do not try to be funny. The average speaker imagines that he must start with a story, but finding a good story that just fits the occasion is an undertaking beyond the scope of most of us. If your story is very good and well told, it may hurt you rather than help you. If your story is poor, it is giving yourself an unnecessary handicap.

Avoid an extravagant style of speaking. Use short, simple sentences. If you find yourself in an involved statement, it is best to stop and start over. Many speakers bury their thoughts in a barrage of words, loosely coupled together in long meaningless sentences. We should attempt to make comprehension easy, not difficult.

*Bulletin Hennepin County (Minn.) Medical Society, Aug. 25, 1936.

Never apologize at the beginning of a speech. If you feel that your effort is not to be your best, it is too late to make amends. In the average case, sufficient time has elapsed to make proper preparation for your effort. If you have done this, there is nothing to apologize about.

Never thank your audience when you finish. This is a necessary ending in certain situations but not at the end of a medical address. If our medical talk has been worth while, the audience should thank us for our efforts in their behalf. This may seem like a small matter, but it is the little things which make the difference between a good talk and one which is not so good.

Most of us offend by failing to speak clearly and loudly enough to be heard. We should form our vowel sounds in the mouth, never the nose or throat. If we wish to be heard in a large crowd, we should put on the power from deep down in our chest in the diaphragmatic region and relax our throat. The front third of an audience, especially if it is seated in a long room, should be made more or less uncomfortable so that the listeners in the back of the room will be able to hear without effort.

Distinct speech results when sounds are formed in the mouth. It is impossible to be heard distinctly if the tones are developed high in the head or back in the throat and if we launch them through the nose. The four rules of pure and distinct speech are: First, use the entire mouth in speaking, sound the front vowels at the front of the mouth, the middle vowels at the middle, and the back vowels at the back. Second, learn to give diphthongs two shapes of the mouth in speaking. Third, learn to make short sounds short and long sounds long. Fourth, generate all powerful speech in the diaphragm. Unsatisfactory voice placement is usually the result of lip and jaw laziness and substitution of the nose for the vocal cords.

Beware of using complicated statistics. It is surprising how few people can understand statistical presentations. It is much better to condense your material into conclusions of the simplest sort and reserve your more complicated tables for the printed article.

What is the secret of talking to non-professional groups about scientific matters?

The answer is very simple, for all that you have to do is to put yourself in the place of the audience. It is the same situation that we would be in if we were listening to something about which we had very little knowledge or none at all. Physicians speaking to non-professional groups should never have to apologize for their inability to explain their ideas or for the use of difficult scientific terms. They should never get into a dilemma where they have to explain their

way out, but rather they should anticipate the point ahead.

Beware of sarcastic remarks. Speeches composed of ridicule are effective only for partisan groups. Little is gained by such an approach when dealing with a non-partisan audience. Physicians do more harm than good when they ridicule those with whom they do not agree when addressing lay audiences. The same statement applies equally well when addressing scientific groups.

Impromptu speeches usually represent our poorest efforts. Poor discussions always result when impromptu speech is employed. Those who are to discuss papers should have an opportunity to see them in advance and then they should not repeat what has been said, except by way of emphasis. If they have nothing to offer, they should not say so and then make a speech. If they have something to say, they should say it and then sit down.

There are many advantages of speech training. It disciplines one in the art of thinking, helps form correct habits of speech, extends one's sphere of influence, develops the ability to speak in public, aids in social adjustment, and makes for better citizenship.

Ending a speech is an art. The best time to stop is when you are supposed to or when your audience is getting bored. There is very little excuse for going on when your audience has left you. When either time comes, summarize in a few words the main points that you hope you have made and then sit down.

Most good speakers would rather speak than do anything else. If you do not feel this way about it, you had better ask yourself how you can improve your speech technic for, after all, we are social beings and like the approval of our fellow men.

WILLIAM A. O'BRIEN, M.D.

St. Paul, Minn.

—
The products we advertise are worthy of your attention. Look them over.

Soap in Therapeutics

SOAP is strongly antiseptic against pneumococci, streptococci, meningococci, gonococci, diphtheria and influenza bacilli, spirochetes and Vincent's organisms. It is colloidal, lowers surface tension and has distinct detoxicating properties. A 1:250 solution of *sapo-mollis* (U.S.P.) or, for prescription use, commercial tincture of green soap, 1 dram to the pint, makes an effective gargle in many types of sore throat, including acute tonsillitis and Vincent's angina.—Dr. THOMAS B. WOOD, in *Med. Times*, July, 1935.

Medical Men of the Sea

TO the landsman's mind, mention of a rescue at sea usually implies an accompaniment of storm, shipwreck, danger, and often stark horror. The captain of the rescuing vessel sends lifeboats to take off the passengers and crew of a disabled ship. Sometimes this is done under conditions of the most extreme peril, to rescued and rescuers alike. Mountainous seas, fog, sleet; all contribute to the hazards of aiding a stricken ship. Yet, no matter how great the danger, the rescue is effected without heroics, as a simple matter of sea routine.



Swinging a patient aboard the rescuing vessel.

Aside from the foregoing popular conception, however, there is another kind of sea rescue not so well known to the public. Every day, in some part of the world, a medical man of the sea seizes his emergency kit and goes to the aid of a patient who may be anywhere from one to one thousand sea miles away. These nautical practitioners are ship's surgeons, or doctors who maintain a land practice in some seaport city, yet hold themselves available for emergency seagoing calls. The patients are passengers or members of the crew on ships which do not carry medical officers. Answering the call via

ship's boat or seaplane, the attending surgeon may be required to do anything from reducing a simple fracture to performing a complicated emergency laparotomy.

The original diagnosis, made by a layman of course, usually is relayed over the radio and contains such illuminating information as the following:

"Our captain is suffering from a severe stomach-ache."

"Seaman Jones fell down the forward hatch and is groaning terribly."

In most cases it is useless to carry on a radio conversation with the ship in an attempt to get more specific symptoms. Beyond giving simple directions for the patient's immediate comfort, the surgeon only wastes valuable time by trying to diagnose the case from a distance. Of one thing, however, he can be absolutely certain: Both the captain's stomach-ache and Seaman Jones' groaning indicate plenty of trouble; nine times out of ten calling for immediate surgery.

Contrary to shore practice, seagoing patients never summon a medical man until they are in dire straits. Often they wait until it is beyond human skill to save the patient's life. Knowing this, the experienced sea doctor concentrates upon getting to his patient in the shortest possible time, and then plunging immediately into whatever measures are necessary. Sometimes these are weird in the extreme.

Imagine performing a major operation without proper operating-room equipment, without any trained help whatever, with only the most elementary facilities for sterilizing! Added to the surgeon's responsibility—grave enough under even the best conditions—is the work of instructing his volunteer assistants on the spur of the moment, watching their every move, doing a hundred things usually delegated to skilled surgical help. Of course many a land practitioner has operated under like handicaps, but at least the floor was steady under his feet, and he didn't—sometimes—have to control the seasick writhings of his own stomach, and his instruments stayed where he laid them. Yet many successful operations have been performed under primitive conditions by both sea doctors and land medicos.

The life of a seagoing medical man is full of hazards, replete with excitement, and offers a worthwhile outlet for the spirit of active, physical adventure inherent in all of us. At least it contains the element of surprise in a big way. The ideal medical rescue is where the sick or injured person can be transferred either to another ship having proper facilities, or to a shore hospital. Since many cases are desperate emergencies, however, there is often no time for this. Appen-

dectomies, herniotomies, even an occasional forceps delivery—a medical man of the sea takes them all in his stride!

BOB MCLEAN.

Oakland, Calif.

The Doctor Himself*

EVERY patient comes to you with a certain amount of respect and fear, whether he shows it or not. You are a doctor. To him or her, you are a man of science whose verdict and actions will influence his or her health or even life. In this person's mind you stand on a pedestal. There is a mysterious halo around your very person. You can increase or decrease that prestige at will. As mental feelings are reflected upon your face, in the line of smiles or the deep furrows of sadness, so the wilful expression of joy or sadness will affect your mind.

Try this experiment: Stand in front of a looking glass, let your shoulders drop, and bring down the corners of your mouth. You are about ready to cry or give up everything in discouragement.

Now brace up, throw your shoulders back and your chest forward, turn up the corners of your mouth, take a deep breath, smile. Look at yourself again. Is that the same man you saw a minute ago, a figure of despair and an object of dejection? No! That ghost has vanished. In its place stands a real man, full of pep and ambition. This is an instance where the mirror is a true friend. It will show you how to master your improper emotions and to become a master of your own mind.

If a simple reflection of your own image can so impress you, what will that expression upon your face and in your whole attitude do to your patient? Remember that your patients come to you in a special state of receptivity that will register the expression of your face, the way you talk, how you sit or stand in their presence. They will notice if you hesitate, especially in your

movements. If you hesitate in your answers, it might be interpreted in your favor. They will say you are wise and careful; but if you hesitate in your movements they will naturally think you do not know what to do.

Be careful to have your patient sitting upon a lower chair than the one you are using yourself. Always have him look up to you. If necessary, stand up so that he must look up. Be clean in mind and body. Take particular care of your hands. It is not a bad idea to wash them in front of your patients, so that they know you are not carrying germs to them from a previous patient.

Be polite, be patient, be sympathetic, but be just. Be just to your patient, but be just also to yourself and your family, to whom you owe a decent living. Be appreciative but be energetic. Remember that the majority of patients try to get your services at the lowest possible cost to themselves, but that the world will take you at your own evaluation, providing you are a fair appraiser, honest and skilful enough to deliver the goods.

Jos. N. LANDRY, M.D.

Everett, Mass.

The Candid Camera

FROM some of the pictures we have seen, the rules for the proper conduct of a candid cameraman should be: (1) Pick out your victim—someone who doesn't want his picture taken; (2) wait until circumstances and his pose combine to rob him of any vestige of dignity he might have; (3) point your camera at him at an angle that will make a picture as little flattering as possible; (4) be sure that he isn't watching you; (5) snap the picture; (6) run like anything.

With these rules, you get a picture for which your subject would gladly massacre you, but which his friends will think is wonderful. If such is the case, you can call your picture a success.

Candid photography appeals strongly to the sadistic element in all of us. But—man alive—is it fun! We know. We have a candid camera.—Chicago Med. Soc. Bul.

*Bul. Office Pract., March, 1937.

LEGAL WRONGDOING

Crime has very high visibility, but it is not nearly so important as some other conditions. We pay a much stiffer price for the moral apathy of respectable society within the law. Public life with its deplorable standards; oaths of office notoriously violated; rampant disorders abetted and protected by political power; public utterances scandalously unreliable—these are infinitely more costly to the nation than legal crime. We have witnessed not merely a departure from principles of rectitude in public life, but a shocking ignorance that anything like principle exists. What formerly was concealed for shame, now passes for bold political cleverness. The economic consequences of this are very serious.—W. J. CAMERON, over Columbia Broadcasting System.

THE SEMINAR

"A MONTHLY POSTGRADUATE COURSE"

[NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 5 (Urologic?)

Presented by Lieut. F. R. Moore, M.C.,
U.S. Navy

(See Clin. Med. & Surg., May, 1937, page 219)

RECAPITULATION: A woman of 47 years complained that, for two years, her abdomen had been growing larger without apparent reason. For two weeks she had been having urinary frequency, with difficulty in starting the flow and in emptying the bladder.

Her past history was negative, except for a curettage and hemorrhoidectomy 16 years previously.

Examination was essentially negative, except for distention of the abdomen, from umbilicus to pelvis. She could not relax her muscles, so the abdominal examination was unsatisfactory.

Urologic study showed no abnormalities except a partial obstruction of the right ureter, with dilation of the terminal calices of the right kidney, and a calcified area in the path of the right ureter at the brim of the pelvis.

She developed signs of blockage of the right ureter, and (in hospital) an F-5 catheter was passed beyond the obstruction; two days later an F-7 catheter was admitted to the right kidney. The acute symptoms subsided in five days.

Requirements: Suggest diagnosis and further examinations required, giving reasons.

Discussion by Alexander Schlapik, M.D.,
Waukegan, Ill.

The patient is suffering with a right pyelitis and cystitis. Predisposing to the infection is a chronic obstruction of the right ureter, as evidenced by (a) difficulty in passing a catheter to the right kidney; and (b) dilation of the terminal calices of the right kidney.

Is the obstruction in the ureter or external to it? I do not think the obstruction is in the ureter because (a) there is no history of

colic; (b) no history of hematuria; and (c) after passing a No. 5 catheter once, the ureter would allow the passage of a No. 7 catheter without difficulty.

The gynecologic history is incomplete. Is patient married? How many children has she had? The menstrual history is important.

I would advise a thorough vaginal examination. A rectal examination is also valuable, combined with x-ray studies. I favor a diagnosis of uterine fibroid with calcification.

Discussion by George B. Lake, M.D.,
Chicago, Ill.

It seems fairly obvious that all of the urinary symptoms complained of by the patient were due to the extraneous obstruction of the right ureter, with accompanying nerve irritation referred to the bladder.

The urologic examination showed that the bladder itself was normal; and the fact that bladder catheterization released only 400 cc. of urine suggests that there was no organic obstruction of the urethra. Moreover, this small quantity of urine in the bladder would not account for the marked distention of the abdomen, nor for the tenderness which made complete abdominal palpation impossible.

The pyelograms and the study of the kidney urines, segregated by ureteral catheters, showed that there was no serious disease of the kidneys, as the dilatation of the right calices was merely the result of the ureteral obstruction.

That this obstruction was due to pressure on the ureter by some part of the abdominal contents was shown by the facts that, in the earlier stages, the pressure could be relieved by twisting sidewise on the stool, thus changing the position of some movable organ or neoplasm, and that a ureteral catheter could be passed, though with difficulty.

There is nothing in the history to account for the presence of the area of calcific density at the brim of the pelvis, shown by the

x-ray examination, and this may or may not have had any significance in diagnosis.

The general picture suggests the presence of a more or less movable and more or less firm, *abdominal tumor* of some sort, which, in certain body positions, pressed upon the ureter, obstructing it more or less intermittently. The calcified area just mentioned may have been a part of such a tumor.

The logical procedure would have been to induce light anesthesia in the patient (sufficient to relieve the tenderness and relax the abdominal wall), and then make a careful and complete examination of the contents of the abdomen and pelvis, by direct and bimanual palpation. The results of such an examination would probably suggest the proper line of treatment.

Solution by Dr. Moore

Examination of the abdomen after relief of the symptoms revealed a large, dull mass in each lower quadrant. The one on the right was about the size of a large grapefruit; the one on the left, the size of a large orange. A tentative diagnosis of bilateral ovarian cyst was made.

The following day the patient was transferred to St. Therese's Hospital, Waukegan, Ill. At operation, a large *hematosalpinx* was found on the right side, measuring $6 \times 4 \frac{1}{2} \times 3$ inches, containing large and small cysts throughout, filled with blood. On the left, a *hydrosalpinx* was found, $5 \times 4 \times 2$ inches. These were removed. The course of the right ureter was traced along the inlying ureteral catheter down to the bladder, but no ureteral calculus was found. The convalescence was unevent-

ful, and a urological checkup, two months later, showed the calcific body previously mentioned in approximately the same position, but definitely outside the course of the ureter. There have been no urinary complaints since operation.

Problem No. 7 (Medical)

Presented by Ralph L. Gorrell, M.D.,
Clarion, Ia.

A YOUNG woman school teacher requested an examination to determine the cause of these symptoms: (1) Pains in the head and knees; (2) slight fever; (3) fatigue on slight exertion.

She had not been feeling well for ten days. The illness began insidiously and for no apparent reason. Her health had always been good, except for diarrhea occurring "about ten days ago." The pains were of a neuralgic type, without definite localization or radiation. The temperature ranged between 99.6° and 102° F. She looked pale and tired.

Nothing abnormal was detected in examination of the throat, lungs, heart, abdomen, and pelvis. Transillumination of the sinuses did not show any increased density. Both eyelids were swollen, but not reddened. The knees displayed no swelling, localized tenderness, nor limitation of motion.

The urine contained no albumen or sugar. The hemoglobin was 75 percent; the erythrocyte count 3,800,000; leukocytes, 11,000, with 8 percent eosinophils.

Requirements: Suggest a tentative diagnosis and treatment. What further examinations would you have made?

ACCIDENTS AND ALCOHOL

As things stand at present there would appear to be no absolute safeguard for the motor driver but total abstinence. Such abstinence should be practised for several hours before driving, as well as during its course, for the rate of disappearance of alcohol from the blood is very slow. It is gotten rid of—mostly by oxidation—at the rate equivalent to only 1 ounce of whisky per hour, in a man weighing 154 pounds.—London Times.

RIGHT AND JUSTICE

I do not want to live under a philanthropy. I do not want to be taken care of by the Government, either directly or by any instruments through which the Government is acting. I want only to have right and justice prevail, so far as I am concerned. Give me right and justice and I will undertake to take care of myself . . . I will not live under trustees if I can help it . . . I do not care how wise, how patriotic the trustees may be. I have never heard of any group of men in whose hands I am willing to lodge the liberties of America in trust.—WOODROW WILSON, in "The New Freedom."

FEAR

Most individual fears are based on unreality. Take out your fear and examine it intellectually and dispassionately, and you will find that it is nothing but a ghost. It has no substance. The thing which you fear exists only in your own mind.—FRANK P. STOCKBRIDGE.

CLINICAL NOTES and ABSTRACTS

Treatment of Varicose Ulcers

IN present-day practice we do not see the enormous, infected, and generally neglected varicose ulcers we used to see.

Occasionally these ulcers are seen, usually in younger people who are obliged to be on their feet a good part of every day, and, therefore, ambulant treatment is sought because of economic necessity.

For these unfortunates it is not always advisable to start the injection treatment of the varicose veins which are the cause of the ulcers, but often more necessary to treat the infection or the ulcer first for a few weeks, in order to alleviate pain and discomfort. In these cases the elastic adhesive tape known as *Elastoplast* is a great boon.

The technic I use is to scrub and debride the ulcer bed until the granulation tissue is reached, using soap and a nail brush (this procedure, of course, is painful, but of short duration); then sponge dry with alcohol and apply 20-percent silver nitrate solution, and an ointment as simple as possible (an ointment with cod-liver oil as a base is best), applied generously to the ulcer and about one inch around it; a dry dressing or two is placed over this for several inches about, in order to prevent leakage of serum and ointment through the dressings; then the leg is elevated and a two- or three-inch *Elastoplast* bandage, depending on the size of the limb and the amount of edema or swelling present, is applied, by unrolling and applying over the instep twice, and a double figure-of-eight around the ankle, continuing up the limb to about two inches below the knee, applied snugly. This dressing is left in place for a period of five days at a time, and then, after removal, reapplied until the ulcer is definitely healed, which may take from two weeks to a month.

Upon each removal, one notices considerable closing in and epithelization of the ulcerous edges, to the extent of about $\frac{1}{4}$ to $\frac{3}{4}$ of an inch; a healthier looking granulation tissue base; and, of course, diminution or disappearance of pain. The veins which are responsible for the ulcer condition are now more visible, because edema begins to dis-

appear, and are injected, if one elects to do so, at each reapplication of the bandage.

The advantages of the *Elastoplast* bandage are:

1.—It embodies both elastic bandage and adhesive facing.

2.—The bandage stretches and is not rigid, as is the case with ordinary adhesive taping.

3.—If the bandage is applied too tight at first, the patient is able to unroll a part of it and adjust it to his own comfort; and also, if it becomes too loose after diminution of the edema, it is readjustable by the patient.

4.—It is not so messy or time-consuming as the Unna cast, and because of this it can be quickly applied, even at the patient's home.

5.—Because of the foregoing considerations it is ideal for ambulatory treatment of varicose ulcers.

Sensitization of the skin to adhesive plaster is prevented by applying an ordinary roller bandage over the skin and ulcer dressing, over the area to be covered by *Elastoplast*, just prior to its application.

THEO. H. MADAY, M.D.
Chicago, Ill.

The Significance of a Positive Tuberculin Reaction*

A POSITIVE tuberculin test, particularly in the period of childhood or adolescence, places before the family physician the difficult task of carefully following a few of the knotty threads which help to make up the complicated fabric of human life.

He must realize that a positive reaction means that the tubercle bacillus has entered the human organism and has produced a pathologic condition known as tubercle. In reality, a positive test warrants a diagnosis of tuberculosis. It is doubtful if we are justified in continuing to teach that there is a difference between disease which does not produce obvious symptoms and which never manifests demonstrable pathologic changes during life, and the same disease which gives

**J. Okla. St. M. A.*, Jan., 1937.

rise to the symptoms of toxemia with the demonstrable signs of gross pathology.

Infection with the tubercle bacillus carries a wide range of possibilities. The disease may never cause obvious symptoms or demonstrable lesions. It may, particularly in infancy, lead to the development of one of the acute forms of tuberculosis which usually, in a relatively short time, prove fatal. Generalized miliary tuberculosis, tuberculous meningitis and the acute pneumonic types of pulmonary tuberculosis are among the common forms. If the child with a positive tuberculin test lives to be three or four years of age without developing manifest progressive disease, even though the x-rays may show what we call the primary complex (a calcified or Ghon tubercle in the parenchyma of the lung with secondary involvement of tracheobronchial lymph nodes), we may reasonably anticipate that he will carry on through childhood without clinical manifestations of disease.

When he arrives at the age of puberty there seems to be an inexplicable susceptibility to active progressive disease, either through endogenous or exogenous reinfection. Then follows the train of variable possibilities always accompanying manifest tuberculosis.

Having discharged his duty with reference to the individual manifesting the evidence or infection, the physician must consider the probable source of infection. Infection with the tubercle bacillus means contact with the tubercle bacillus. This usually means intimate contact with some one who has open tuberculosis. Naturally some one in the home must be considered the most probable source of infection. A negative family history is of little importance. Each member of the family, including relatives, servants, and others who may reside in the home, should have a tuberculin test; and every one exhibiting a positive test should have a thorough examination, including an acceptable x-ray study of the chest. Any member of the household manifesting symptoms or signs of pulmonary disease should be examined, even though the tuberculin test is negative. Repeated sputum examinations should be made in suspected cases, where sputum is available. Accepting a single negative sputum examination as final often leads to disaster.

If such a searching investigation fails to reveal the source of infection in the home, we must consider the possibility of contact with tuberculous teachers, neighbors, or visiting friends and relatives. Finally, hand to mouth infection must be considered. The baby on the floor, the child playing jacks or marbles on the street, may easily make contact with tubercle bacilli which have been

deposited there by someone suffering from open tuberculosis. Occupants of the home may carry tubercle bacilli on their feet or they may be carried in by dogs and cats. Contaminated food may constitute another source of hand to mouth infection.

Thanks to those who have instituted the wise handling of dairy herds in this country, and the added precaution of pasteurization of milk before delivery, we see relatively little bovine tuberculosis in the United States. However, we must not forget the possibility of infection from undiscovered tuberculous cows, privately owned or in dairy herds.

The execution of the proposed program is often difficult. Nevertheless, the obligation rests squarely upon the shoulders of the physician who discovers a positive tuberculin test. Fortunately for those physicians who may not be interested, or who may not desire to carry out such a program, the aid of specialists or voluntary and public health agencies in the field of tuberculosis may be secured. The same sources of service may be recommended to the physicians who are interested in executing the program, but feel the need of help with certain phases of the examination.

LEWIS J. MOORMAN, M.D.
Oklahoma City, Okla.

Look for FACTS AND COMMENTS among the advertising pages at the back.

Rectal and Vaginal Examinations During Labor*

RECTAL examinations in labor are more difficult of interpretation than are vaginal examinations, as the reach of the finger is shortened by the intervening perineal, anorectal, and vaginal structures. The external os may be in the normal position, entirely effaced, undilated or dilated to an extent, but so thinned out and so closely in contact with the fetal head or membranes that no line of demarcation can be recognized on vaginal examination. In such cases, a diagnosis of full dilatation is often made when actually none exists.

The junction of the vagina and cervix may be palpated as a soft ring, which may be mistaken for the smaller ring of the os. In this type of case, dilatation is, as a rule, slow and cervical tears are more common than when it is not present.

Occasionally a true case of undilatable cervix presents itself. The cervix can be dilated only to one or two finger breadths,

even with fingers or a bag, and it quickly closes down as soon as the dilating force is removed. Apparently the internal os forms a contraction ring. Aged primiparas or multiparas with a long interval of sterility most frequently present this type of cervix.

Rather young primiparas may have a soft, undilatable cervix, associated with an absence or practical absence of amniotic forewater, and where the head was fully engaged and the cervix effaced weeks before labor started. The cervix must be opened by crushing the unyielding external os with the tip of the finger.

If pressure while examining causes the patient to desire to urinate, the bladder or ureter are being palpated. If cramplike pain occurs, the internal os is being pressed upon.

Louis DROSN, M.D.

New York City.

Recent Trends in Pellagra

PELLAGRA results from faulty dietary habits. The primary cause is the absence in the diet of the food essential commonly called vitamin B₃ or G.* Individuals who subsist on diets deficient in this vitamin sooner or later develop the disease.

Pellagra occurs principally among the tenant farmers of the south. It occurs far less frequently in urban centers, where the populace has more ready access to a larger variety of foods in modern grocery stores and where economic conditions do not become quite so distressing during hard times as they do for tenant farmers.

The incidence of pellagra has long been associated with economic conditions. It generally increases during hard times. The recent depression indicates that it is more closely related to agricultural than industrial conditions. The disease increased at an unprecedented rate during the agricultural depression which began shortly after the World War. Conditions became very critical on the farm, in some sections of the country, long before the advent of the industrial depression.

The highest aggregate death rate from pellagra for the thirteen southern states where the disease prevails most extensively, occurred in 1928. The rate increased from 9.4 per 100,000 population, in 1924, to 22.4, in 1928—an increase of 58 percent. The 1935 aggregate rate is 8.8, which is 60 percent below the 1928 rate. These rates (22.4 and 8.8) are the highest and lowest aggregate rates, respectively, ever recorded for these states (North and South Carolina, Georgia, Florida, Mississippi, Louisiana, Alabama, Ar-

kansas, Tennessee, Texas, Oklahoma, Kentucky, and Virginia).

The cause of the increase prior to 1928 is very evident, but the cause of the decrease since that time, during the worst period of the depression for agriculture, as well as industry, is not quite so clear. Health officers, physicians and relief agencies attribute this decrease largely to the introduction of gardening, which was not practiced generally by tenant farmers prior to 1927, and to the distribution of pure powdered yeast. In the absence of an adequate diet, pure yeast is recognized as one of the most valuable measures for the treatment of this disease.

Pellagra can eventually be controlled only through the use of proper foods, among which vegetables are all-important. Milk, lean meats, liver, and fish are also valuable antipellagra foods, but for economic reasons they are not available in sufficient quantity to a large part of the farm tenant population of the south. Experience indicates that they can and will use garden produce. Gardening therefore occupies a unique place in the pellagra control program.

Pure powdered yeast occupies an equally important place in this program. For those who have developed symptoms of the disease and for those who, for some reason, do not eat the foods they need, yeast is a most valuable measure. It contains the pellagra-preventive factor in a quantity and form well suited to these patients. Fifty to sixty grams a day for from six to ten weeks will restore the large majority of them to a normal state of health, even without any alteration in the regular diet. Smaller quantities are sufficient as a preventive. Then, too, pure yeast is comparatively inexpensive. It can be purchased for 19 cents a pound.

WILLIAM DE KLEINE, M.D.
Washington, D.C.

State Medicine is poorhouse medicine.
Tell your patients.

Low Back Pain*

THE causes of low back pain are first, "strains" especially at the lumbosacral junction ("small of the back"); anatomic anomalies of the vertebrae; undiagnosed fractures of vertebrae, spinous or transverse processes; aneurysms of the aorta or its branches (which are rarely diagnosed properly; one "osteoarthritis of the spine" patient suddenly died from a ruptured aneurysm); metastatic lesions; Kummell's disease (a back injury is negative to x-rays at first, but in six months or a year, a definite compression of a vertebra can be demonstrated); prostatic and seminal vesicle lesions; osteoarthritis and atrophic

*Recently the statement has been made that pellagra appears to be a *virus disease*, affecting only those whose diets are deficient in vitamin B₃, but not all such persons.—Ed.

arthritis; colon infections; fibrosis (palpable nodules in the deep back muscles, which are tender on deep palpation); onset of smallpox and influenza.

Treatment of arthritis and sprains consists of rest on a firm bed or in a cast, or taping, depending on the severity and extent of the condition. Mild sprains and fibrosis respond to external heat (infrared, diathermy, hot pad), deep massage, and rest. A thorough examination should be carried out before a chronic backache is dismissed as "lumbago."

CHARLES F. PAINTER, M.D.
Boston, Mass.

The Micro-Dynameter in Diagnosis*

THE scientific criticisms of the Micro-Dynameter are perfectly accurate in many respects, but, as is often found in medicine and surgery, legitimate theoretical criticisms, founded upon laboratory tests, are disproved by practical experience.

I was the first person to procure a Micro-Dynameter in this country, and after an experience of its uses for nearly twelve months, I am as convinced of its utility, in my capacity as a urologist, as I am of the value of the cystoscope as an aid to diagnosis; but no diagnostic apparatus is of any service without a complete clinical examination of the patient in the first instance.

The function of the apparatus is based upon the simple biologic fact that, wherever inflammatory processes are going on within the bodily tissues, chemico-electrical changes occur which generate their own electricity, varying inversely with the degree of inflammation present. This degree can be measured by a galvanometer put into circuit with a positive and negative electrode connected with the patient. The measurements are registered in micro-volts—the millionth parts of a volt.

In the body as a whole, there is a constant generation of electricity being evolved from the electric atoms within the protoplasmic contents of the bodily cells. The amount of electricity generated in an individual, which can be measured by the apparatus, is dependent upon the general fitness, and is termed *vitality*. The vitality of a normal, healthy, young adult is 50,000 micro-volts. This measurement usually diminishes with age and always with debilitating diseases. In some people, however, the general vitality is maintained to late in life, so that they exhibit the energy of youth.

The method adopted in a micro-dynametrical examination is, first, a complete clinical overhaul of the patient and the recording of the vitality. As perspiration will upset read-

ings very rapidly, the hands and feet and other parts tested should be wiped with tissue paper or washed with cold water. A preliminary skin reading is taken upon the arm, and any reading registered is deducted from all future readings during the examination. The oxidation capacity can be read while testing the vitality. Local inflammation, acute or chronic, can be located in any part of the body by applying the negative pole of the apparatus to the suspected area, while the positive pole is attached to the forehead. The readings are recorded upon a chart with diagrammatic illustrations. All examinations are carried out without pain or discomfort to the patient. The apparatus is portable.

Since practically all diseases commence with some degree of inflammation, early diagnosis can at least be achieved with some certainty. Early inflammation surrounding teeth or bone can be measured in the earliest stages, long before a roentgenogram could show a positive result; 15,000 micro-volts or more must be evolved in a diseased area, before an x-ray film will demonstrate a positive finding.

Among the numerous inflamed parts to which I have applied the apparatus, I have observed that commencing inflammatory activity will record a reading from one to 1,000 micro-volts (mv.); simple inflammation, a reading from one to 5,000 mv.; chronic inflammation, from 5,000 to 10,000 mv.; sub-acute inflammation 10,000 to 15,000 mv.; acute inflammation above 15,000 mv.

The dental surgeon may examine an aching tooth and find no microscopic or radiologic evidence of disease; but the micro-dynameter will locate the diseased area instantly, and thus confirm the patient's complaint.

The physician can readily locate tuberculous patches in the lungs with this apparatus, long before obvious clinical or radiologic signs are present.

To the surgeon the apparatus is invaluable, since it will locate appendicitis, cholecystitis, pyelitis, cystitis, prostatitis, urethritis, etc., without hesitation, so that no time need be lost before treatment is instituted.

The following few instances, out of many, illustrate the dramatic change of readings after treatment. A reading of 40,000 mv. was recorded in a case of acute appendicitis before operation, and 1,500 mv. immediately after the operation, showing that the suppurative process had been removed and only a resolving inflammation remained. A reading of 20,000 mv. was recorded in a case of acute gonorrhea at the onset of the treatment, and was reduced to 2,000 mv. within ten days, when the discharge had practically ceased. A reading of 15,000 mv. was recorded in a case of sub-acute pyelitis, and was reduced to 2,000 mv. within forty-eight hours following renal lavage. A reading of 8,000 mv. was re-

**Med. World* (London), Nov. 27, 1936, and *Brit. J. Phys. Med.*, Feb., 1937.

corded in a case of chronic cystitis due to enlarged prostate, and was reduced to 500 mv. after three days of continuous bladder lavage by means of a two-way urethral catheter, and ultra-short-wave therapy.

The advantages of this preoperative investigation are obvious. Unnecessary operations can be avoided and the patient treated by medical and physical therapeutic methods, while essential operations can be performed without delay or hesitation and with a good preconceived idea of the state of the pathologic condition present.

The technic applied in using the apparatus must be minutely accurate. One-half centimeter deviation, when applying the search electrode, will alter the reading completely.

I consider that it is of the utmost importance to take the room temperature and the patient's temperature on each occasion that a test is made, as I am certain they have an effect upon the readings obtained. Twenty degrees alteration of room temperature and one degree alteration in the patient's temperature will alter the vitality reading by 20 percent, in the individual whose reactions to heat are normal. A normal person's vitality reading, taken on a hot summer's day, would be 20 percent greater than when taken on a cold winter's day. In the same way local readings are affected. The reason may be due to the effect of temperature upon the apparatus or to alteration in bodily surface temperature. Since the apparatus has provided against the former, the variation must be due to the latter.

The flow of electrical current is increased by heat and rise of temperature. Sweat is due to increased heat and rise of surface temperature, and it is found that local readings over such areas as the armpits and crotch will be greatly increased in persons who sweat a great deal in these locations. If it is necessary to take a reading over the posterior urethra, where most people sweat, the parts should be washed with cold water, and thoroughly dried before a reading is taken. But sufficient time should be given for the normal circulation to return. There are location areas for every organ or anatomic part and they vary in each individual. Such local spots should be carefully noted and charted with accurate measurements, so that repeat readings may be made over the exact spot.

MORTON WHITBY, M.R.C.S. (Eng.)
London, Eng.

I find CLINICAL MEDICINE AND SURGERY a very practical journal; and of the many journals to which I subscribe, I have yet to find one which has been more helpful to me.—L. G. B., New Jersey.

Treatment of Bed Sores*

BED sores may be treated by stretching elastic adhesive tape completely over the sore, from healthy skin to healthy skin, and leaving it in place until it loosens (24 to 48 hours); then remove the old tape and dry the surrounding skin, but not the ulcer; re-apply the tape until complete healing has taken place. Patients will complain of itching.

Or, this method may be used: Spray on a 5-percent solution of tannic acid, or paint with brilliant green (1-percent watery solution) until a crust is formed. The area must be kept clean and dry. If infection occurs under the crust, as indicated by softening of an area, remove the crust with hot saline compresses or petrolatum and treat the infection by wet compresses of Dakin's solution or boric acid. Then repeat the treatment. This method cannot be used if a virulent infection, deep necrosis of tissue, or bone involvement is present.

If the sore is extremely bad, arrange a continuous bath, which should be kept clean by a continuous overflow and refilling, and a constant temperature, controlled by a thermostat. Perfect drainage and relief from pressure are thus obtained.

MANUEL G. SPIESMAN, M.D.
Chicago, Ill.

Look for THE LEISURE HOUR among the advertising pages at the back.

Prevention of Arsphenamine Reactions

IF these questions are asked of every patient receiving arsphenamine or neocarsphenamine, and action is taken accordingly, there is very little likelihood of a severe reaction, as the questions take up each system:

- 1.—Has the weight increased or decreased?
- 2.—Is more or less urine passed? (Also, examine the urine for albumin and casts.)
- 3.—Was there itching or a rash following the last injection?
- 4.—Is there any jaundice?
- 5.—Has anorexia, vomiting, or diarrhea appeared?
- 6.—Has there been any soreness of the mouth?
- 7.—Has weakness, giddiness, precordial pain, or distress been present?
- 8.—Has there been any fever?
- 9.—Has there been any headache; any nervous or mental changes?
- 10.—Was there, following the last injection, any "flare-up" of general or local symptoms?

The busy practitioner may ask these questions during the slow injection, or have them

printed, in nonmedical terms, on a slip of paper to have the patient fill out, directly or with the assistance of the secretary.—U.S. Naval Med. Bull., April, 1937.

Use our reader service department
"Send for This Literature."

"Gas" or Epigastric Fullness*

IT is always disturbing to hear that the patient you have been treating for "flatulent indigestion," dropped dead a few months later with an attack of angina pectoris.

Belching, epigastric fullness, or pain is often an early symptom of heart disease, especially if it follows exertion, and particularly *exertion after eating*—if golf or gardening is followed by a restless, gassy, or wheezy night.

Herrick and McCracken have demonstrated that, after a meal, the blood flow more than doubles, not only in the blood vessels supplying the digestive tract, but also in all vessels of the rest of the body. One can easily see why a man whose heart is ordinarily just strong enough to stand the extra strain of a short walk, is not able to take this walk after meals, when the load on the circulation has already been increased almost to the breaking point; and one can also realize that the diet of heart patients should be light.

WALTER C. ALVAREZ, M.D.

Mayo Clinic, Rochester, Minn.

Look over the Classified Ads
under "Business Opportunities."

The Four Questions in Heart Disease

1.—What has caused the patient's heart disease? (Rheumatism, hypertension, arteriosclerosis, syphilis, pulmonary disease, or goiter?)

2.—What organic changes are present in the heart and blood vessels? (Coronary sclerosis, aortic change, myocardial damage and hypertrophy, valvular disease, or pericardial inflammation?)

3.—How does his heart work? (Are there arrhythmias, auricular fibrillation, or heart block—dyspnea on exertion, cough, or edema of the ankles?)

4.—What can the patient's heart do? (Can he carry on his usual occupation, must there be some restrictions, or must he be at complete rest?)—CHAUNCEY C. MAHER, M.D., in *Radiol. Rev.*, May, 1937.

*Am. J. Dig. Dis. & Nutr., May, 1937.

Allergy in General Medicine*

ALLERGY, or sensitiveness, is the cause of many conditions found in the everyday practice of medicine, some of which follow:

- 1.—*Gastrointestinal tract*
 - A. Canker sores in the mouth.
 - B. Acute gastro-enteritis, with nausea, vomiting, diarrhea, and pain.
 - C. "Cholecystitis," like pain and other right abdominal distress.
 - D. Mucous colitis.
 - E. Pylorospasm; some cases of pyloric stenosis in the newborn.
- 2.—*Skin*
 - A. Eczema.
 - B. Urticaria.
 - C. Itching over the body, and pruritus ani and vulvae.
 - D. Erythema; erythema nodosum.
 - E. Purpura; angioneurotic edema.
- 3.—*Joints, Tendons, Muscles*
 - A. Muscular pains over the body.
 - B. Some cases of arthritis and fibrositis.
 - C. Transient edema in tendon sheaths; intermittent hydrarthroses.
- 4.—*Eyes*
 - A. Eczema and edema of the eyelids.
 - B. Conjunctivitis, with or without hay fever.
 - C. Corneal inflammation produced by specific sensitiveness.
- 5.—*Central nervous system*
 - A. Migraine; allergic headaches without typical migraine symptoms.
 - B. Neuralgia.
 - C. Epileptiform seizures.
- 6.—*Nose and Sinuses*
 - A. Attacks of allergic coryza (feathers, dust, pollen).
 - B. "Head colds," in some cases.
- 7.—*Bronchi and Lungs*
 - A. Bronchial asthma.
 - B. Allergic coughs; asthmatic bronchitis; croup.
- 8.—*Cardiovascular system*
 - A. Cardiac irregularities.
 - B. Hypertension and hypotension (some cases).
 - C. Anginal pain.
- 9.—*Genito-urinary system*
 - A. Dysmenorrhea.
 - B. Irritable bladder.
 - C. Renal colic (produced by spasm or edema of the ureter).
 - D. Bed-wetting.
- 10.—*General manifestations*
 - A. Prolonged fever.
 - B. Allergic shock: slow pulse, subnormal temperature, hypotension.

HAL M. DAVISON, M.D., F.A.C.P.
Atlanta, Ga.

*Journal-Lancet, March, 1937.

THUMBNAIL THERAPEUTICS

Treatment of Parkinsonian Tremor

METHYLENE blue (chemically pure), injected intravenously, acts in some cases of parkinsonian tremor, especially in post-encephalitic cases. The results, unfortunately, last for a limited time only. Methylene blue has a definite action on the tremor; its action on the rigidity is slight.

The quantity injected is, to begin with, 5 cc. of a 1-percent solution in sterile distilled water (about one milligram per kilogram of body weight); then up to 10 cc. (two milligrams per kilogram).—DR. G. PIOTROWSKI of Geneva, Switzerland, in *Med. Record*, Oct. 7, 1936.

Metaphen in Streptococcal Pharyngitis

INTRAVENOUS injections of 10 cc. of a 1:1,000 solution of Metaphen have been found to be specific in the treatment of acute pharyngitis of streptococcus origin. They are easy to give and do not produce reactions of any kind. In early cases, one dose is sufficient, but in later cases two or three doses, on successive days, may be required.—MARIE N. SIMONSEN, M.D., in *J. of Chemotherapy*, Oct., 1936.

Chronic Exhaustion

SMALL doses (20 mg., in divided doses, during the morning) of benzyl methyl carbinamine (Benzedrine sulphate) have produced satisfactory results in a high percentage of cases of chronic exhaustion. In rare cases, patients complain of sweating, dryness of the mouth, anorexia, and disturbed sleep.—M. H. NATHANSON, M.D., in *J. A. M. A.*, Feb. 13, 1937.

Neoarsphenamine in Melitensis Infection

IN Europe, neoarsphenamine has been used with success in cases of undulant or Malta fever (brucellosis), and we have used it with good results in 7 cases, though the modus operandi is not known. Sulpharsphenamine does not work so well.

The first dose should be 0.3 Gm., followed by 0.6 Gm. after five days; then give, every week, from 0.6 to 0.9 Gm., until a total of 4.5 Gm. has been given.

These cases are frequently difficult to treat, and this method is worth trying.—CHARLES W. WAINWRIGHT, M.D., before Southern Med. Assn., Nov. 17, 1936.

Camphorated Oil in the Treatment of Minor Industrial Wounds

EETHER, followed by a camphorated oil dressing, is the ideal method of treatment of lacerations, as shown by 83 consecutive cases in which there was no primary or secondary infection. The treatment of 17 consecutive cases of second-degree burns has shown the beneficial effect of camphorated oil dressings, following the primary use of Amertan.—DR. N. MCINTURFF, M.C., U. S. Navy, in *U. S. Nav. M. Bull.*, Jan., 1936.

Sunlight Preserves Syrup of Ferrous Iodide

THE valuable tonic, syrup of ferrous iodide, has a tendency to turn from green to brown in color and to become toxic, if kept on the shelf for a few months. When this occurs, it can be restored to its former color and safety by exposing it to direct sunlight for a few hours. If this is done five or six times, at intervals of a few days, the green color will be retained permanently.—*Science News Letter*, July 18, 1936.

Anesthetic Premedication

IN most cases where ether is to be used as an anesthetic it is well to administer atropine, for drying the secretions, and also to give a barbiturate the night before and the morning of operation. Morphine should not be given with a barbiturate, as it causes dangerous depression of respiration when the ether is added.—JOHN S. LUNDY, M.D., in *Ill. M. J.*, Aug., 1936.

Prontosil in Puerperal Streptococcal Infections

AT Queen Charlotte's Hospital, London, the mortality from puerperal streptococcal infections, in 1935, was 24 percent. In 64 cases treated with Prontosil the mortality was reduced to 4.7 percent. The drug was given daily, intravenously or intramuscularly, in

doses of from 20 to 90 cc. of a 2.5-percent solution, according to the severity of the case, and was reduced as the symptoms subsided. The period of recovery was nearly cut in half.—L. COLEBROOK, M.B., B.S., M. KENNEY, M.R.C.S., *et al.*, in *Lancet* (Lond.), June 6 and Dec. 5, 1936.

Polyneuritis

SOCALLED "alcoholic polyneuritis," occurring in an alcohol addict, is not due to alcohol, but to a deficiency of vitamin B. If the intake of vitamin B is increased to twice the basal requirement, good results are obtained; double this dose works better; intravenous injections of crystalline vitamin B₁ produce dramatic effects in these cases.—Drs. N. JOLLIFE and C. N. COLBERT, in *J. A. M. A.*, Aug. 29, 1936.

Prostigmin in Paralytic Ileus

IF given preoperatively or immediately after operation, in doses of 1 cc. of a 1:4,000 solution, hypodermically or intramuscularly, Prostigmin will prevent paralytic ileus in practically every case. If symptoms of this condition have already developed, the dose is 1 cc. of a 1:2,000 solution, repeated every 4 to 6 hours, as required.—M. E. UZNANSKI, M.D., in *Ill. M. J.*, Dec., 1936.

Exercise in Diabetes

IN most cases of diabetes, exercise is an important part of the treatment, but it should be mild enough not to cause fatigue, and should be taken after a dose of insulin (or when sufficient insulin is known to be present in the body) and before meals.—Editorial, *J. A. M. A.*, Mar. 20, 1937.

Saving Meningitis Patients

EVEN meningitis patients in coma have been saved by the intravenous use of meningococcus antitoxin, and the mortality has been cut in half. The dose must be large—from 20,000 to 80,000 units daily.—ARCHIBALD HOYNE, M.D., in *Ill. M. J.*, April, 1937.

Danger of Bromides

THE long-continued use of bromides may produce a deterioration in the judgment of the patient, or even delusions, so that the patient becomes inaccurate in his statements and ideas, and may even go into a definite drug psychosis.—ALEXANDER LAMBERT, M.D., in *New Eng. J. of M.*, July 9, 1936.

Protamine Insulinate

A MORE satisfactory control can be obtained with a single large dose of protamine-insulin in the morning, than with two daily doses of old insulin. However, its effect is slow and some old insulin should always be given along with it for the first few days, until its full effect is apparent. In acute diabetic emergencies—acidosis, coma, infections, etc.—old insulin should always be used, if available, on account of its quicker action.—A. R. COLWELL, M.D., in *Bul. Evanston Br. Chicago M.S.*, Jan., 1937.

Rest in Heart Disorders

REST, sleep, guidance, and attention to the psychic factors of the case are more important than drugs in the treatment of nearly all cardiac disorders. If heart patients can be persuaded to abstain from every unnecessary motion for a period of months, they can frequently be restored to reasonably normal living.—DAVID RIESMAN, M.D., F.A.C.P., of Philadelphia.

Phenolphthalein for Nursing Women

NO free phenolphthalein is excreted in the milk of nursing women after taking large doses of this drug, either the U.S.P. or the yellow variety; and there is no obvious effect upon the bowel movement of an infant nursed by a woman who is taking phenolphthalein. The yellow variety of this drug is more active, in bed patients, than the U.S.P. (white) variety.—DR. BERNARD FANTUS and J. M. DYNIEWICZ, in *A. J. Digest, Dis. & Nutrit.*, May, 1936.

Intracranial Pressure

FOR reducing intracranial pressure, the intravenous injection of 100 cc. of a 15-percent solution of sodium chloride is more effective than an equal amount of 50-percent dextrose solution, introduced in the same manner.—A. BLAU, M.D., in *Arch. Int. Med.*, April, 1936.

Flavoring Prescriptions

THE most efficient "all-purpose" flavoring agents are syrups of prepared cacao (cocoa) and raspberry, especially to cover the taste of bitter drugs, such as alkaloids. For covering the salty taste of such drugs as ammonium chloride and the bromides, the syrups of cinnamon, orange, and sarsaparilla are most effective.—HAROLD N. WRIGHT, Ph.D., in *J. A. M. A.*, Mar. 20, 1937.



THE DOCTOR'S STUDY

No amount of native shrewdness can entirely
compensate for deficiency of knowledge.—

R. AUSTIN FREEMAN.

Means: Thyroid Diseases

THE THYROID AND ITS DISEASES. By J. H. Means, M.D., Jackson Professor of Clinical Medicine, Harvard University, and Chief of Medical Services; Being an Account Based in Large Measure on the Experience Gained in the Thyroid Clinic of the Massachusetts General Hospital by the Following Physicians and Surgeons of the Clinic: A. W. Allen, G. W. W. Brewster, O. Cope, S. Hertz, G. W. Holmes, J. Lerman, R. R. Linton, J. H. Means, J. V. Meigs, R. H. Miller, D. L. Sischoe, H. K. Sowles, R. H. Wallace, E. L. Young and Many Other Collaborators, Past and Present. Massachusetts General Hospital. Philadelphia, Montreal, London: J. B. Lippincott Co. 1937. Price, \$6.00.

There has long been a need for a thorough survey of the entire field of thyroid function, written from both the medical and surgical standpoint. That need has now been filled.

Both hyperthyroidism and hypothyroidism are considered in detail, as to diagnosis and treatment. In considering the iodine response, the authors state very definitely that they do not believe any toxic goiters are iodine-refractory or resistant. From cases followed over a period of months, they feel that every case will respond, regardless of previous iodination, and that the cases formerly labeled as iodine-refractory, are of the severe, rapidly-progressive type, which would be even worse without the iodine.

The surgical aspect is taken up rather briefly. The advantages of a slow, careful dissection of the gland, and exposure of the parathyroids and recurrent laryngeal nerves to prevent their injury, are shown, over the older, rougher, clamp-and-cutting method. That silk will cause much less induration and serum formation, is, of course, well known.

The general practitioner will note with interest the section on thyroid administration

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., is accompanied by a check for the published price of the book.



in other diseases than myxedema. Menstrual abnormalities, including both oligomenorrhea and menorrhagia (as previously reported by Mayo Clinic workers), malnutrition in an occasional case, nephrosis, anemia, arthritis, constipation (one of the symptoms of myxedema), sterility and habitual abortion, senile eczemas, deafness and recurrent corneal ulcer are discussed, and cases reported in which thyroid extract has been of definite value.

Warbasse-Smyth: Surgical Treatment

SURGICAL TREATMENT: A Practical Treatise on the Therapy of Surgical Diseases. By James Peter Warbasse, M.D., F.A.C.S., Special Lecturer in the Long Island Medical College; and Calvin Mason Smyth, Jr., B.S., M.D., F.A.C.S., Assistant Professor of Surgery in the University of Pennsylvania Graduate School of Medicine, Surgeon-in-Chief to the Methodist Episcopal Hospital, Philadelphia, Pa. Second Edition. Three Volumes, with 2486 Illustrations. 1937. Philadelphia: W. B. Saunders & Co. Price, \$35.00. 3 Volumes and Index.

These beautifully bound volumes are a delight to the eye and the hand. The illustrations, 2486 in number, are clear, instructive and well chosen.

The section on fractures and dislocations carries an immense amount of information on the commoner injuries. The new method of reducing shoulder dislocations (Zierold, University of Minnesota) is not mentioned.

For the surgeon who is called on only occasionally to ligate an artery, the colored anatomic drawings will be of great help, clearly showing, as they do, the important neighboring structures and topography.

The discussion on treatment of tumors is excellent. A microscopically benign tumor may cause death, due to its size, pressure on

important structures, hemorrhage or through internal secretion which it throws into the blood stream.

Every organ of the body has been considered, from a surgical standpoint. Many practical points in minor surgery and office treatment are given, as well as modern methods of performing all types of major and minor operations. This up-to-date presentation of the field of surgery will be of great value to the occasional operator, as well as to the specialist. The index volume, for desk use, is a great convenience.

Harris: High Blood Pressure

HIGH BLOOD PRESSURE. By I. Harris, M.D., in Collaboration with C. N. Aldred, M.D., J. T. Ireland, B.Sc. (Hons.), G. V. James, M.Sc., A.I.C., Leverhulme and Maurice Stern Research Fellows (from the Liverpool Heart Hospital). Oxford University Press, London: Humphrey Milford. 1937. Price, \$3.75.

This is the medical literature of tomorrow. Dr. Harris sets out to study every angle of the hypertension problem, without prejudice for or against any theory. As he says, there is much pseudo-research on which contradictory medical literature is based. For example, in determining the answer to such a simple clinical problem as the relation of serum protein to a high and low protein diet, it is not enough to estimate the blood serum protein on the two types of diet, but also the blood volume, and nitrogen intake and output, to insure that no contributing factors are overlooked.

He concludes that high blood pressure (or hypertony) is the result of an abnormally high protein intake over a period of years, entailing as it does so much extra work on the kidneys. Carbohydrate and fat are broken down to carbon dioxide and water, and eliminated without strain on these organs; but a high-protein diet increases the work of the kidneys from two to seven times. Medicine should not be given to reduce blood pressure, as it tends to impair a compensatory process.

The valuable material so patiently gathered and conveniently grouped in this book should be read by every clinician who wants to understand hypertension and give logical treatment for it.

Cecil: Diagnosis and Treatment of Arthritis

THE DIAGNOSIS AND TREATMENT OF ARTHRITIS. By Russell L. Cecil, M.D., Sc.D., Professor of Clinical Medicine, Cornell University; Associate Visiting Physician, New York Hospital, New York City. Henry A. Christian, M.D., Sc.D., LL.D., General Editor of the Series. (Reprinted From Oxford Monographs on Diagnosis and Treatment.) New York: Oxford University Press. 1936. Price, \$4.75.

The acute and chronic arthritides are serious causes of discomfort and economic loss. Many persons are victims of chronic arthritis

especially, in some of its forms, over long periods of time and are, to a great extent, disabled by it. What modern medicine can do to better this situation in a patient is often a pressing and difficult problem, in the solution of which the practicing physician needs all the help he can get.

Doctor Cecil, long a student of the causes and the treatment of arthritis, has prepared this volume to bring to the practitioner a knowledge of the most approved methods at the present time for the diagnosis and treatment of this disease. Part I deals with acute arthritis and the infections; septic and non-infectious types are dealt with in separate chapters. The text in each chapter follows the same arrangement, with definition, symptoms, clinical findings, differential diagnosis, and treatment in succession. Each chapter is accompanied by a bibliography.

In Part II chronic arthritis is dealt with and the specific, chronic, degenerative, and metabolic types are discussed in the same manner as with the acute forms of the disease. The chapters on tuberculous and rheumatoid arthritis call for special mention. In the first, according to the situation and intensity of the affection, operative treatment or long immobilization of a joint may be the treatment of election. In rheumatoid arthritis, the author believes that studies point strongly toward the importance of the streptococcus (in one of its various forms) as the causative agent, always however, assuming the existence of some predisposing cause. The therapeutic procedure which the author has always considered as of first importance is the removal of focal infection. Rest, warmth, vaccine, and other supplemental treatments are fully discussed.

For the general practitioner who sees so many cases of arthritis, this book is a good one to have on his handy bookshelf. It is excellently printed.

Phillips and Haden: Diseases of the Liver and Biliary Tract

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE LIVER AND BILARY TRACT. By John Phillips, M.B., Late Chief of Medical Division, The Cleveland Clinic, Cleveland, Ohio. Revised by Russell L. Haden, M.D., Head of Department of Medicine, The Cleveland Clinic, Cleveland, Ohio. Henry A. Christian, M.D., Sc.D., LL.D., General Editor of the Series. Reprinted from Oxford Monographs on Diagnosis and Treatment. New York: Oxford University Press: 1936. Price, \$7.50.

This volume is based on the newer methods of investigating functional disturbances of organs by clinical study, supplemented by laboratory findings.

The liver, with its biliary ducts and gall-bladder, has a very complex function, increasingly well understood as the result of investigations in recent years. Disturbances in liver activity cause widespread changes in body functions; on the other hand, disease in other organs of the body adversely influences hepatic and biliary functioning. As a result,

great complexity of symptoms follow diseases affecting the liver, biliary ducts, or gall-bladder.

Dr. John Phillips, who was especially fitted by experience to discuss these subjects in a practical way, had but barely finished the manuscript for this volume when his life was sacrificed by the noxious gases, generated by burning x-ray films, in the Cleveland Clinic disaster of 1929. The work has been completed and brought up to date by Dr. R. L. Haden. There are four parts: Part I is devoted to general considerations; Part II deals with diseases of the liver; Part III covers diseases of the extrahepatic bile ducts; and Part IV covers diseases of the gallbladder.

The volume is written in a clear, concise and practical manner and the illustrations are well selected and helpful. The bookwork and index are good.

Practitioners of medicine and clinical diagnosticians should find this book most helpful in supplying the knowledge of how to diagnose and treat diseases of the liver and biliary tract.

Boyd: Introduction to Medicine

A N INTRODUCTION TO MEDICAL SCIENCE. By William Boyd, M.D., M.R.C.P. (Edin.), F.R.C.P. (Lond.), Dipl. Psych., F.R.S. (Canada), Professor of Pathology in the University of Manitoba; Pathologist to the Winnipeg General Hospital, Winnipeg, Canada. Illustrated with 108 Engravings. Philadelphia: Lea & Febiger. 1937. Price, \$3.50.

This book is intended to provide the nurse, technician, premedical student, and intelligent layman with a general survey of the nature, causes, effects, diagnosis, and prevention of disease. Technical terms are reduced to a minimum and much basic information is conveyed. It serves its purpose excellently and should improve the cooperation which his helpers and his patients should give to the physician.

International Clinics

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest. By Leading Members of the Medical Profession Throughout the World. Edited by Louis Hamman, M.D. Volume I. Forty-Seventh Series, 1937. Philadelphia, Montreal, London: J. B. Lippincott Company. Price, \$3.00 each.

The March, 1937, volume of *International Clinics* contains several clinical contributions of practical importance. The paper on "Therapeutic Hyperthyroidism," by Dr. Israel Bram, is intended to show that this method deserves serious consideration in selected cases of simple colloid goiter, myxedema, and certain other endocrine disturbances. Dr. Milton Plotz and associates contribute a good paper on "Treatment in Advanced Nephritis." Dr.

L. C. Montgomery gives an excellent exposition of the treatment of "Lobar Pneumonia" of various types in the Massachusetts General Hospital. The paper is full of important clinical and statistical facts. There is a timely paper by Dr. William H. Robey on "The Teeth As an Etiological Factor in Disease." Many physicians overlook the importance of investigating the oral cavity of physical examinations.

Other good clinical contributions are "Bronchiectasis," by Dr. C. Howard Marcy; "Thyroid Deficiency," by Dr. George H. Lathrop; and "The Basis of Prognosis and Treatment in Hypertensive Disease," by Dr. Robert Wilson.

Cheney: Diseases of Stomach and Intestines

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE STOMACH AND INTESTINES. By William Fitch Cheney, B.L., M.D., Clinical Professor Medicine (Emeritus), Stanford University Medical School; formerly Professor of Principles and Practice of Medicine, Cooper Medical College, San Francisco, California. Henry A. Christian, M.D., Sc.D., LL.D., General Editor of the Series. (Reprinted from Oxford Monographs on Diagnosis and Treatment.) New York: Oxford University Press. 1936. Price, \$5.50.

It has been a characteristic of American medicine for several decades past that it has combined laboratory research with clinical observation in the diagnosis and treatment of diseases, departing from the German method of laboratory research and pathologic anatomy. The American method has as its basis the study of functional disturbance in the living.

Dr. Cheney's book on the diagnosis and treatment of diseases of the stomach and intestines follows the newer method. In treatment, instead of the therapeutic nihilism which dominated the practice of medicine for so long, we now have the newer procedures of chemotherapy, immunization, serums, physical therapy, etc., which have restored the practice of medicine to some of its pristine importance.

The diagnosis of disturbances of the gastrointestinal tract, as formulated here, is based mainly on the patient's history, with clinical observation supplemented with approved laboratory investigations. The treatments are directed toward the restoration of normal function. While there is nothing essentially new in either the methods of diagnosis or treatment, yet the practitioner who wants to know what is the matter with his patient and how best to treat him, will find in Dr. Cheney's work sound and practical methods of answering both questions.

The book consists of two parts: Part I covers the usual medical diseases of the stomach in eleven chapters, including a chapter on reflex disturbances of gastric function which are so often diagnosed as direct disease of the stomach. Part II deals with intestinal diseases in seventeen chapters; these include

acute and chronic inflammations, ulcerative colitis of different kinds, ulcer, cancer, obstruction, stasis, etc. The chapter on the diagnosis of appendicitis is especially well written and clear, and it is significant that, while in other acute conditions the author is inclined to favor conservative medical treatment, in acute appendicitis immediate operation is the treatment indicated and recommended.

This is a highly practical book for general practitioners and clinical diagnosticians.

Le Fleming: General Practice

A N INTRODUCTION TO GENERAL PRACTICE. By E. Kaye Le Fleming, M.A., M.D., Chairman of Council, British Medical Association. Direct Representative, General Medical Council. Chairman of the Conference of Local Medical and Panel Committees, 1925-1930. Chairman, Representative Body, B.M.A., 1931-1934. Baltimore: William Wood & Company. 1936. Price, \$2.00.

In spite of widespread specialization, a considerable majority of physicians are still general practitioners, and young men who have recently graduated can profitably use advice regarding this "universal specialty."

While this little volume was written for physicians in Great Britain, so that many of the detailed suggestions do not apply to those in the United States, the chapters on the relations between the general practitioner and his colleagues and his patients, and also those regarding his financial and legal affairs are applicable anywhere. It should be a real help to any young man entering upon the practice of medicine.

Horsley and Bigger: Operative Surgery

OPERATIVE SURGERY. By J. Shelton Horsley, M.D., L.L.D., F.A.C.S., Attending Surgeon, St. Elizabeth's Hospital, Richmond, Va., and Isaac A. Bigger, M.D., Professor of Surgery, Medical College of Virginia, Surgeon-in-Chief, Medical College of Virginia Hospitals, Richmond, Va. With Contributions by C. C. Coleman, M.D., F.A.C.S., John S. Horsley, Jr., M.D., Austin I. Dodson, M.D., F.A.C.S., Donald M. Faulkner, M.D. Volumes I and II. Fourth Edition. St. Louis: The C. V. Mosby Company. 1937. Price, \$15.00 (2 volumes).

This fourth edition departs from the character of being a personal exposition of the subject by the senior author; it is now a collaborative work, with contributions by several surgical specialists of the Medical College of Virginia, on the operations associated with their specialties. The additional material, together with numerous revisions, have necessitated the issue of the work in two volumes.

Little that is not trite can be said in reviewing a textbook on operative surgery. Such works, as a general rule, follow a routine in which the authors describe and illustrate operations which they have either originated or commonly practiced, or else those which ap-

pear to them most suitable for the disease process. The present book is no exception to this rule. Dr. Horsley gives excellent descriptions of operative procedures with which his name is associated, and such other selective operations as are familiar to himself and his associates. The work is not intended to be encyclopedic in scope, yet it will be found to contain all the operative procedures that are currently performed in general hospitals and many special operations. To say that the book amply fulfills the needs of one who seeks an excellent practical guide in present day operative methods would be commonplace, yet this is the fact. It shows care in selection of material; simple but clear descriptions of technic; and detailed particulars when such are desirable for the reader who is unfamiliar with the operations described.

This work can be confidently recommended to general surgeons, and particularly as a book to be constantly consulted by the student of surgery. It follows the usual arrangement of regional surgery; it is clearly printed, amply illustrated, accompanied by bibliographic references at the ends of chapters, and there is a thorough index. Altogether, it is an excellent piece of work.

Griffith and Mitchell: Diseases of Infants and Children

THE DISEASES OF INFANTS AND CHILDREN. By J. P. Crozer Griffith, M.D., Ph.D., Emeritus Professor of Pediatrics in the University of Pennsylvania; Consulting Physician to the Children's Hospital, Philadelphia; Consulting Physician to St. Christopher's Hospital for Children; Consulting Pediatrician to the Woman's, the Jewish, and the Misericordia Hospitals, etc.; and A. Graeme Mitchell, M.D., B. K. Rachford Professor of Pediatrics, College of Medicine, University of Cincinnati; Medical Director and Chief of Staff of the Children's Hospital of Cincinnati; Director of the Children's Hospital Research Foundation; Director of Pediatric and Contagious Services in the Cincinnati General Hospital. Second Edition. Revised and Reset. Philadelphia and London: W. B. Saunders Company. 1937. Price, \$10.00.

On looking over this ponderous tome, containing more than 1,100 pages of closely printed text, one marvels at the advances which the specialties of medicine have made within the past few decades: This work, in itself, is a veritable practice of medicine.

The general subject is divided into several sections. Division I deals with the anatomy and physiology of early life, hygiene, feeding, and the general characteristics of disease and its recognition in infancy and childhood. Division II deals with specific diseases: Sections 1 to 12 cover diseases of the newborn, infectious diseases, and diseases of the various systems, including the ductless glands and disturbances of the internal secretions.

The section on infectious diseases is very full, as may be expected in a book of this kind; however, considering its importance, more space might have been given to measles.

Diphtheria is particularly well treated. In discussing pertussis the authors are non-committal in regard to the protective value of vaccines. They are sceptical also regarding the use of living or dead bacilli, B.C.G., or any potential allergen, in the prophylaxis of tuberculosis.

Section IV of Division II, covering diseases of the digestive tract in early life, is naturally a very important one. We consider it the best section in the book. The intestinal and diarrheal disorders of children are well discussed from the clinical viewpoint.

The only other section that seems to call for special comment is that on the ductless glands and endocrine disturbances. Although we are still far from a satisfactory clinical knowledge of these, yet such facts as have been demonstrated by observation and research are clearly set forth here.

On the whole, the book is a very thorough and almost encyclopedic exposition of the common and possible diseases of children and infants, presented in a concise manner but with sufficient detail in important diseases to make it a fairly complete work of reference. It should be useful to teachers, to pediatricians, to general practitioners, to resident physicians, and to graduate and undergraduate students of medicine. The various chapters are supplemented by bibliographic references. There is an ample index.

Use our reader service department
"Send for This Literature."

Brugsch: Review of Medicine

ERGEBNISSE DER GESAMTEN MEDIZIN (Productions of the Entire Domain of Medicine). Edited by Prof. Dr. Th. Brugsch. Vol. 21 for the year 1936, in Three Parts Totaling 595 pages with 87 illustrations. Berlin and Vienna: Urban & Schwarzenberg. 1937. Price, paper covers, Rm. 25; bound, Rm. 30.

This well-known periodical publication of essays, now in its 21st year and devoted to original research in all medical disciplines, present for the year 1936 fifteen contributions, each of which is either a comprehensive review of the literature on a given subject or the outcome of original investigation. Of these we mention as especially meritorious and of interest to general clinicians: a study of genito-anorectal elephantiasis as a "part disease" of inguinal lymphogranulomatosis; the relation between bronchial asthma and pulmonary tuberculosis; infection of the duodenum; spontaneous, idiopathic pneumothorax; periodic vomiting with acetonuria; and pulmonary syphilis. The remainder is devoted to special biochemical and infectious problems. Surgery is conspicuous by its absence. As is usual with this publication of veritable monographs, the present yearly output offers much scientific material, especially to practitioners of internal medicine. Familiarity with the German language is essential to benefit from perusal of the text, because its presentation is phrased in a

manner to be rather difficult of understanding by American physicians who know only what is commonly referred to as "medical German."

G. M. B.

Look for THE LEISURE HOUR among the advertising pages at the back.

Plesch: Heart

PHYSIOLOGY AND PATHOLOGY OF THE HEART AND BLOOD VESSELS. By John Plesch, M.D. Budapest; M.D. Germany; L.R.C.P. and S. Ed. and Glas., Professor of Internal Medicine in the University of Berlin. Oxford University Press, London: Humphrey Milford. 1937. Price \$5.25.

This scholarly compendium of the physics and physiology of the complicated interactions between vessel dilatability, heart force, and pathologic conditions which tend to affect them, is interesting reading, despite the free employment of complicated formulas, the rather stiff and heavy style, and occasional straining of analogies to physics. There are many practical points to be found on close reading.

He denies many principles, which have been hallowed by age, and makes out logical cases against them. It is thought-provoking to read such factual discussions, but from a practical standpoint the book will be of value chiefly to physiologists and cardiologists.

As in the other Oxford Monographs, the volume is attractively bound and printed.

Trumper: Poisons

MEMORANDA OF TOXICOLOGY. By Max Trumper, B.S., A.M., Ph.D. Consulting Clinical Chemist and Toxicologist. Third Edition. Philadelphia. P. Blakiston's Son & Co. 1937. Price, \$2.00.

This handy, pocket-size volume covers a wide field. Anyone who has ever been suddenly called on a poisoning case will appreciate the completeness and availability of all relevant information contained therein. What to do when poisoning is suspected, what antidote to use and how to use it, and the procedures for removing organs which will be analyzed, are all given.

Several newer drugs used in the treatment of disease (trichlorethylene in trigeminal neuralgia; dinitrophenol in obesity; ergotamine tartrate in the puerperium and migraine) are shown to be definitely toxic, and cases are reported in which gangrene or death followed the ingestion of the drugs.

We can prevent such domestic tragedies as strychnine poisoning, following the ingestion of cathartic tablets by children, if we will warn our patients of the danger. A thorough reading of this little volume will suggest hazards in homes and in industries, with which we may come in contact. Every clinician needs a work like this. The book fits easily in a car pocket or bag. It is bound durably in a moisture-proof cover.

New Books Received

The following books have been received in this office
and will be reviewed in our pages as
rapidly as possible.

THE TREATMENT OF DIABETES MELLITUS. By Elliott P. Joslin, M.D. (Harvard) M.A. (Yale). With the Cooperation of Howard F. Root, M.D., Priscilla White, M.D., and Alexander Marble, M.D. 6th Edition, Thoroughly Revised. Philadelphia: Lea & Febiger. 1937. Price, \$7.00.

INFANTILE PARALYSIS AND CEREBRAL DIPLEGIA. Methods Used for the Restoration of Function. By Elizabeth Kenny. With a Foreword by Herbert J. Wilkinson. Sydney, Australia: Angus & Robertson, Ltd. 1937. \$5.10.

KLINISCHE FORTBILDUNG. Edited by Prof. Dr. Rudolf Cobet and Prof. Dr. Kurt Gutzeit. Volume 4. Berlin, Germany: Urban & Schwarzenberg. 1936 and 1937. Price, paper cover, RM 30.00; cloth cover, RM 35.00.

THE ENDOCRINES IN OBSTETRICS AND GYNECOLOGY. By Raphael Kurzrok, Ph.D., M.D. Baltimore: The Williams & Wilkins Company. 1937. Price, \$7.50.

ELECTROCARDIOGRAPHY. By Chauncey C. Maher, B.S., M.D. 2nd Edition. Baltimore: William Wood & Company. 1937. Price, \$4.00.

CLINICAL REVIEWS OF THE PITTSBURGH DIAGNOSTIC CLINIC. Guideposts to Medical Diagnosis and Treatment. Edited by H. M. Margolis, B. S., M.D., F.A.C.P. New York: Paul B. Hoeber, Inc. 1937. Price, \$5.50.

SURGICAL ANATOMY. By Grant Macsie, M.B., M.S. (Lond.), F.R.C.S. (Eng.) 3rd Edition. Philadelphia: Lee & Febiger. 1937. Price, \$6.50.

VITAMINS, MINERALS AND HORMONES. By Albert P. Mathews. Reprinted from Principles of Biochemistry, by the same author. Baltimore: William Wood & Company. 1937. Price, \$1.50.

ELEMENTS OF ORTHOPAEDIC SURGERY. By N. Ross Smith, M.B., Ch.M. (Sydney), F.R.C.S. (Eng.). Foreword by R. C. Elmslie, O.B.E., M.S., F.R.C.S. Baltimore: William Wood & Company. 1937. Price, \$4.00.

A BRIEF OUTLINE OF MODERN TREATMENT OF FRACTURES. By H. Waldo Spiers, A.B., M.D. 2nd Edition. Baltimore: William Wood & Company. 1937. Price, \$2.00.

SEXUAL POWER. By Chester Tilton Stone, M.D. New York and London: D. Appleton-Century Company. 1937. Price, \$1.50.

A TEXT-BOOK OF MENTAL DEFICENCY. (Amentia). By A. F. Tredgold, M.D., F.R.C.P., F.R.S.E. 6th Edition. Baltimore: William Wood & Company. 1937. Price, \$7.50.

ATLAS OF HUMAN ANATOMY. By Jesse Feiring Williams, M.D. New York: Barnes & Noble, Inc. 1935. Price, \$2.00.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Edited by H. Letheby Tidy, M.A., M.D. (Oxon.), F.R.C.P., and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S. Baltimore: 1937. Price, \$6.00.

DISEASES OF THE NOSE, THROAT AND EAR. A Handbook for Students and Practitioners. By I. Simson Hall, M.B., Ch.B., F.R.C.P.E., F.R.C.S.E. Baltimore: William Wood & Company. 1937. Price, \$4.00.

THE NORMAL ENCEPHALOGRAM. By Leo M. Davidoff, M.D., and Cornelius G. Dyke, M.D. Philadelphia: Lea & Febiger. 1937. Price, \$5.50.

MAGENKRANKHEITEN IHRE DIAGNOSE UND THERAPIE. In zwölf klinischen Vorlesungen. By Prof. Dr. Otto Porges. Berlin und Wien: Urban & Schwarzenberg. 1937. Price, paper cover, RM 5.—; cloth, RM 6.50.

PRACTICAL MEDICINE SERIES. The 1936 Year Book of General Medicine. Edited by George F. Dick, M.D., Lawrason Brown, M.D., George R. Minot, M.D., S.D., F.R.C.P. (Hon.) Edin., William B. Castle, M.D., A.M., William D. Stroud, M.D., and George B. Eusterman, M.D. Chicago: The Year Book Publishers, Inc. 1936. Price, \$3.00.

PRACTICAL MEDICINE SERIES. The 1936 Year Book of Pediatrics. Edited by Isaac A. Abt, M.D. With the Collaboration of Arthur F. Abt, M.D. Chicago: The Year Book Publishers, Inc. 1937. Price, \$2.50.

DER MYOKARDINFARKT. Erkennung, Behandlung und Verhutung. By Professor Dr. Max Hochrein. Dresden and Leipzig: Verlag von Theodor Steinkopff. 1937. Price, paper cover, RM 12.50; cloth cover, RM 14.—.

OUT OF THE TEST TUBE. By Harry N. Holmes, Ph.D. New Edition Revised and Expanded. New York: Emerson Book, Inc. 1937. Price, \$3.00.

WOMAN'S PRIME OF LIFE. Making the Most of Maturity. By Isabel Emslie Hutton, M.D. New York: Emerson Books, Inc. 1937. Price, \$2.00.

DER BLUTDRUCK DES MENSCHEN. By Dr. Med. Eskil Kylin. Dresden and Leipzig: Verlag von Theodor Steinkopff. 1937. Price, paper cover, RM 24.—; Cloth, RM. 26.—.

CONQUEST OF NERVES. The Inspiring Record of a Personal Triumph Over Neurosis. By Wilfrid Northfield. London and Wisbech: The Fenland Press, Ltd. 1934. Price, \$2.50.

HOW TO WIN FRIENDS AND INFLUENCE PEOPLE. By Dale Carnegie, B.Pd., Litt.D. New York: Simon and Schuster. 1936. Price, \$1.96.

THE NEXT HUNDRED YEARS. The Unfinished Business of Science. By C. C. Furnas. Baltimore: The Williams & Wilkins Company. 1936. Price, \$3.00.

DR. BETTERMAN'S DIARY. For the Years 1868 - 1873 - 1893 - 1909 - 1910. Collated from the Old Doctor's Journals and Edited by Charles Elton Blanchard, M.D. Youngstown, Ohio: Medical Success Press. 1937. Price, \$3.00.

MEDICAL NEWS



© Underwood & Underwood.

Passing of Dr. Alfred Adler

ON May 28, 1937, Professor Alfred Adler, the world-famous Austrian psychologist who coined the term "inferiority complex," founded the school or cult of individual psychology, and who was, perhaps, the sanest and most rational of the pupils of Freud, fell dead on the street in Aberdeen, Scotland. He was on a lecturing tour, and had given fifty-six lectures, in four different countries, during the preceding month. He was 67 years old and was supposed to be in good health.

Dr. Adler was well and widely known in the United States. For five years he had taught in Long Island Medical College, and had lectured at many American universities and before professional and lay audiences all over the country. His books, also, had spread his reputation, especially the semi-popular work, "What Life Should Mean to You," published a few years ago.

In 1935 he established, in Chicago, the quarterly *International Journal of Individual Psychology*, of which he was editor. His disciples are forming a Society of Individual Psychology to carry on his work.

Two of his children are in this country. Dr. Alexandra Adler is a research fellow at Harvard, and a son is a medical student. The picture of the Professor, appearing above, was taken about ten years ago.

Autumn Medical Meetings

IT is not too soon to begin to make plans for the three important medical meetings which will be held this coming autumn, because if plans are not made ahead, the chances are that it will be too late to make them on short notice.

Those who live in the Middle West should plan to attend the meeting of the Mississippi Valley Medical Society at Quincy, Ill., September 29 and 30 and October 1. It is a relatively small meeting, but real post-graduate instruction.

Everyone who possibly can should plan to take in the International Postgraduate Medical Assembly at St. Louis, Mo., October 18 to 22, inclusive. There will be a big crowd. Make hotel reservations now.

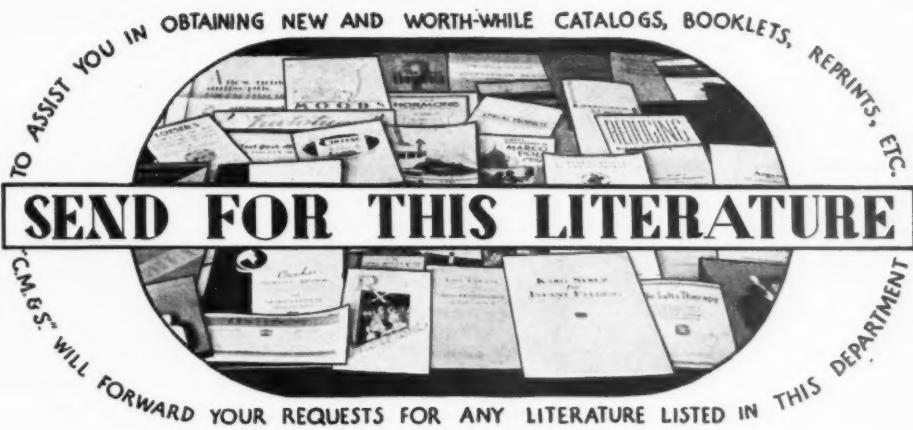
New Orleans, where the Southern Medical Association meets on November 30 and December 1, 2, and 3, is one of the most picturesque cities in the United States—a good place for a winter vacation. The "S.M.A." gives northerners a hospitable welcome.

Use our reader service department
"Send for This Literature."

"Heavy Water" Stimulates Sympathetic

"HEAVY Water"—deuterium oxide— $(H_2)_0$ —is still a laboratory curiosity, but experiments made with it on mice, by Dr. Henry G. Barbour, of Yale Medical School, have shown that if half of the natural water in a mouse's body is replaced by "heavy" water, the animal dies. If the substitution amounts to 20 percent the animal will live but will show pronounced symptoms of overstimulation of the sympathetic nervous system, resembling those of thyrotoxicosis. These symptoms can be relieved by giving ergotoxine.

I must have CLINICAL MEDICINE AND SURGERY as long as I practice medicine and can dig up the price. I get more practical good out of your Journal than any other one I have or ever had. May your shadow never grow less.—F. E. B., M.D., Iowa.



SEND FOR THIS LITERATURE

MAKE USE OF THIS DEPARTMENT
BOTH LITERATURE AND SERVICE ARE FREE

- G- 1 The Pneumonic Lung. Its Physical Signs and Pathology. The Denver Chemical Mfg. Co.
- G- 4 Taurocol. The Paul Plessner Co.
- G- 5 Specific Urethritis—Gonosan "Riedel." Riedel & Co., Inc.
- G- 6 Dr. Weirick's Sanitarium. Dr. G. A. Weirick.
- G- 8 *Journal of Intravenous Therapy*. Loeser Laboratory.
- G- 9 Elixir Bromaurate in the Treatment of Whooping Cough and other Cough Disorders. Report of Cases. (Booklet.) Gold Pharmacal Co.
- G-10 Menocrin. The Harrower Lab., Inc.
- G-12 Endothyrin for use in Hypothyroidism, etc. The Harrower Lab., Inc.
- G-13 A Few Notes Regarding Psychoanalysis. Fellows Medical Mfg. Co.
- G-14 What Constitutes an Ideal Urinary Antiseptic? Cobbe Pharmaceutical Co.
- G-15 Cough — Its Symptomatic Treatment. Martin H. Smith Co.
- G-16 The Therapeutic Value of Chemical Foods. Fellows Medical Mfg. Co.
- G-18 Technic of the Injection Treatment of Hernia. Loeser Laboratory.
- G-19 Menstrual Regulation by Symptomatic Treatment. Martin H. Smith Co.
- G-20 Hyperol. A Utero-Ovarian Tonic and Corrective. Purdue Frederick Co.
- G-21 Gray's Glycerine Tonic Comp. Purdue Frederick Co.
- G-23 Danish Ointment. Reprint *J. A. M. A.* Acne Rosacea. The Original 24-Hour Treatment for Scabies. The Tilden Co.
- G-25 Clinical Guide for Female Sex Hormone Therapy. Schering Corp.
- G-26 Gastric Mucin; An Outstanding Advance in Ulcer Therapy. The Wilson Labs.
- G-27 Reducing Diets and Recipes. Knox Gelatine Laboratories.
- G-28 Dermatomycol for the Treatment of Skin Diseases Due to Fungi. Ernst Bischoff Company.
- G-29 Colloidal Mercury Sulphide-Hille. Hille Laboratories.
- G-30 Ludozan—The Longer Lasting Antacid. Schering Corporation.
- G-33 Foot Weakness and Correction for the Physician. The Scholl Mfg. Co., Inc.
- G-35 Alphacatalyst. The Intravenous Treatment for Cancer. The Farnsworth Labs.
- G-38 Protecting the Expectant Mother. Corn Products Sales Co.
- G-41 Oretone—Synthetic Male Sex Hormone. Schering Corp.
- G-42 Salicylates Resumé of Therapy. Mallinckrodt Chemical Works.
- G-43 Karo Syrup for Infant Feeding. Corn Products Sales Co.
- G-44 Appliances for the Mechanical Retention of Hernia. Brooks Appliance Co.
- G-46 Vitafer. A Reconstructive Tonic containing Antianemic Factors with Vitamin B. National Drug Company.

G-50 Gestasol. The Follicular and Luteinizing Fractions obtained from Human Placentas. The National Drug Co.

G-51 Formaldehyde for Urinary Antiseptics. Schering & Glatz, Inc.

G-54 Use of Zinc Borate in Otolaryngology. Hille Laboratories.

G-55 Prontosil (in ampules for injection) and Prontylin (in tablets for oral use)—Chemotherapy of Streptococcus Infections and Gonorrhea. Winthrop Chemical Co., Inc.

G-58 Betaxin — First Synthetic Vitamin B. Winthrop Chemical Co., Inc.

G-61 Body Chemistry as related to the Endocrine Glands. Reed & Carnick.

G-62 Bismuth Subsalicylate in the Treatment of Syphilis. Loeser Lab.

G-63 Nephritis—The Standard Treatment for Kidney Disorders. Reed & Carnick.

G-64 The Effect of Copper on Iron Metabolism in Anemia. Loeser Lab.

G-67 Treatment of Pruritus Ani with a Long Lasting Oil-soluble Anesthetic. Associated Physicians Labs.

G-68 The Principles of Allergy with Special Reference to Asthma and Hay Fever. The Arlington Chemical Company.

G-69 Cebione. For Use in Scurvy and Precorbutic Conditions. Merck & Co., Inc.

G-71 Eucupin Ointment, a Bactericidal, Local Anesthetic of Sustained Action. Rare Chemicals, Inc.

G-72 Lupex Capsules for Relief of the Functional Pains of Menstruation and Primary Dysmenorrhea. The Lupex Co., Inc.

G-75 Plants which cause Hay Fever. The Arlington Chemical Co.

G-78 Argyrol in Urology and Gynecology. A. C. Barnes Company.

G-79 Hydrocyanate of Iron Pharmacologically Correct in the Treatment of Epilepsy. The Tilden Co.

G-80 Mecholyl. A Parasympathetic Stimulant. Merck & Co., Inc.

G-81 When Silver is not Silver. A. C. Barnes Co.

G-83 Iocapral. An arterial Antispasmodic. Winthrop Chemical Co., Inc.

G-84 The Three Arsenicals in General Practice. Mallinckrodt Chemical Works.

G-85 Mallophene, its Character & Uses, Particularly in Genito-Urinary Disorders. Mallinckrodt Chemical Works.

G-88 As Man Stood Up. Schering & Glatz, Inc.

G-89 Free Iodine as a Therapeutic Agent. Burnham Soluble Iodine Co.

G-90 Non-Specific Protein Therapy and Activation of the Reticulo-Endothelial System. Chemico Labs.

G-91 Adrenal Cortex; for the Treatment of Addison's Disease and Asthenia. The Wilson Labs.

G-92 Lutrone. Endo Products, Inc.

G-93 Facts about Metaphen and Metaphen Products. Abbott Labs.

G-94 Haimased for Hypertension. The Tilden Co.

G-95 Low Cholesterol, Low Fat, Low Caloric Diet List for Distribution to Patients. Burnham Soluble Iodine Co.

G-96 Eburol, a Healing Ointment for Burns, Wounds, and Ulcers. Ernst Bischoff Co.

G-97 Reprint, "Dysmenorrhea: A New and Effective Treatment." The Lupex Co.

G-98 Throughout the Span. Wm. R. Warner & Co., Inc.

G-99 A Survey in Two Fields of Medicine. A. C. Barnes Co.

USE THIS COUPON!

Enter below the numbers of the literature you desire (on both sides of this page); check your profession in the proper square; tear off and mail to CLINICAL MEDICINE AND SURGERY, Medical and Dental Arts Bldg., Waukegan, Ill.

We will do the rest!

Nos. _____

Name _____

Address _____

Physician

Dentist

Nurse

Registered Pharmacist

Medical Student